

ST. LOUIS DISTRICT CULTURAL RESOURCE MANAGEMENT REPORTS NUMBER 24

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ST. LOUIS HARBOR PROJECT PEDESTRIAN SURVEY MADISON COUNTY, ILLINOIS

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by Ronald E. Pulcher
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with Contributions by George R. Holley
and Jerry J. Moore

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American Resources Group, Ltd.
Carbondale, Illinois



US Army Corps
of Engineers
St. Louis District

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occupations. Two large Late Woodland to Mississippian site groups correspond to what have been called "fourth-line communities" in the American Bottom. Twenty nine sites were identified as Late Woodland to Mississippian "household or farmstead" locations. Two prehistoric sites were identified as small "activity loc," and one site was recorded as a potential cemetery based on information from a long-time area resident. The historic sites dated from the early to mid-nineteenth century and appear to be primarily house sites, with one possible twentieth century commercial location. Recommendations for National Register of Historic Places ineligibility or testing for eligibility are made.

ST. LOUIS DISTRICT CULTURAL RESOURCE
MANAGEMENT REPORTS NUMBER 24



St. Louis Harbor Project Pedestrian Survey
Madison County, Illinois

by
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with Contributions by
George R. Holley
and
Jerry J. Moore

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The crew for the project consisted of Ron Pulcher, Supervising Archaeologist; Alan Brown, Jerry Moore, and Richard Walle, crew members. Mark Phillips prepared the maps for the report. Sarah McNerney produced the line drawings and plates. Artifacts were photographed by Brian Crawford. Prehistoric ceramics were analyzed by George Holley, prehistoric lithics by Ron Pulcher, and historic material by Jerry Moore. Linda Ober typed and edited the manuscript with skill and patience.

Administrative support was provided by the Midwest Regional Office of Environmental Science and Engineering, Inc., St. Louis, Missouri. The assistance of Dr. Ronald G. Alderfer in the areas of project administration is gratefully acknowledged.

ABSTRACT

→ This report describes the results of a cultural resources pedestrian survey for the proposed St. Louis Harbor project. Located in Madison County, Illinois, the project area is immediately east of the Chain of Rocks Canal in the American Bottom. An area of 268.7 ha (644 acres) was walked in 5 m intervals. Forty two sites and 47 isolated finds were recorded. Forty sites had prehistoric components; five had historic components.

Prehistoric sites contained materials dating from the Late Archaic through the Mississippian periods, with the majority of remains indicating Emergent Mississippian occupations. Historic sites dated from the early to mid-nineteenth century.

Two large Late Woodland to Mississippian site groups correspond to what have been called "fourth-line communities" in the American Bottom. Twenty nine sites identified as Late Woodland to Mississippian "household or farmstead" locations have the potential to yield subsurface remains of one or two structures and associated pits. Two sites were identified as small "activity loci," and one site was recorded as a potential cemetery based on information from a long-time area resident.

The historic sites appear to be primarily house sites, with one possible twentieth century commercial location.

Recommendations include controlled surface collection, subsurface testing, large-scale plow zone removal, and geomorphological studies on the prehistoric sites with potential National Register of Historic Places (NRHP) eligibility. Archival work is suggested for one of the five historic sites, after which further recommendations should be made.

Collections resulting from this work are at the Illinois State Museum, Springfield, Illinois. Various maps, photographs, and other documentation are on file at the St. Louis District, Corps of Engineers office.

TABLE OF CONTENTS

Acknowledgements	i
Abstract	ii
List of Maps	iv
List of Plates	iv
List of Tables	iv
Introduction	1
Environmental Context.	4
Methodology.	8
Survey Results	11
Statement of Significance.	23
Statement of Impact.	29
Recommendations.	30
References	32
Appendix A, Scope of Work.	38
Appendix B, Surface Collection Data.	44
Appendix C, Ceramic Analysis	48
Appendix D, Lithic Analysis.	69
Appendix E, Historic Artifact Analysis	82
*Appendix F, Site Survey Forms	90
*Appendix G, Sketch Maps G-1 through G-13	91
*Appendix H, Government Project Maps	93
*Appendix I, USGS 7.5' Topographic Maps.	94
*on file, St. Louis District, Corps of Engineers office	

LIST OF MAPS

1. Location of Project Area 2
2. Survey Universe with Areas Surveyed Showing
Ground Cover Conditions and Areas Previously Surveyed. 3

LIST OF PLATES

1. Lithic Artifacts20
2. Lithic Artifacts21
3. Lithic Artifacts22

LIST OF TABLES

1. Potential NRHP Sites.25

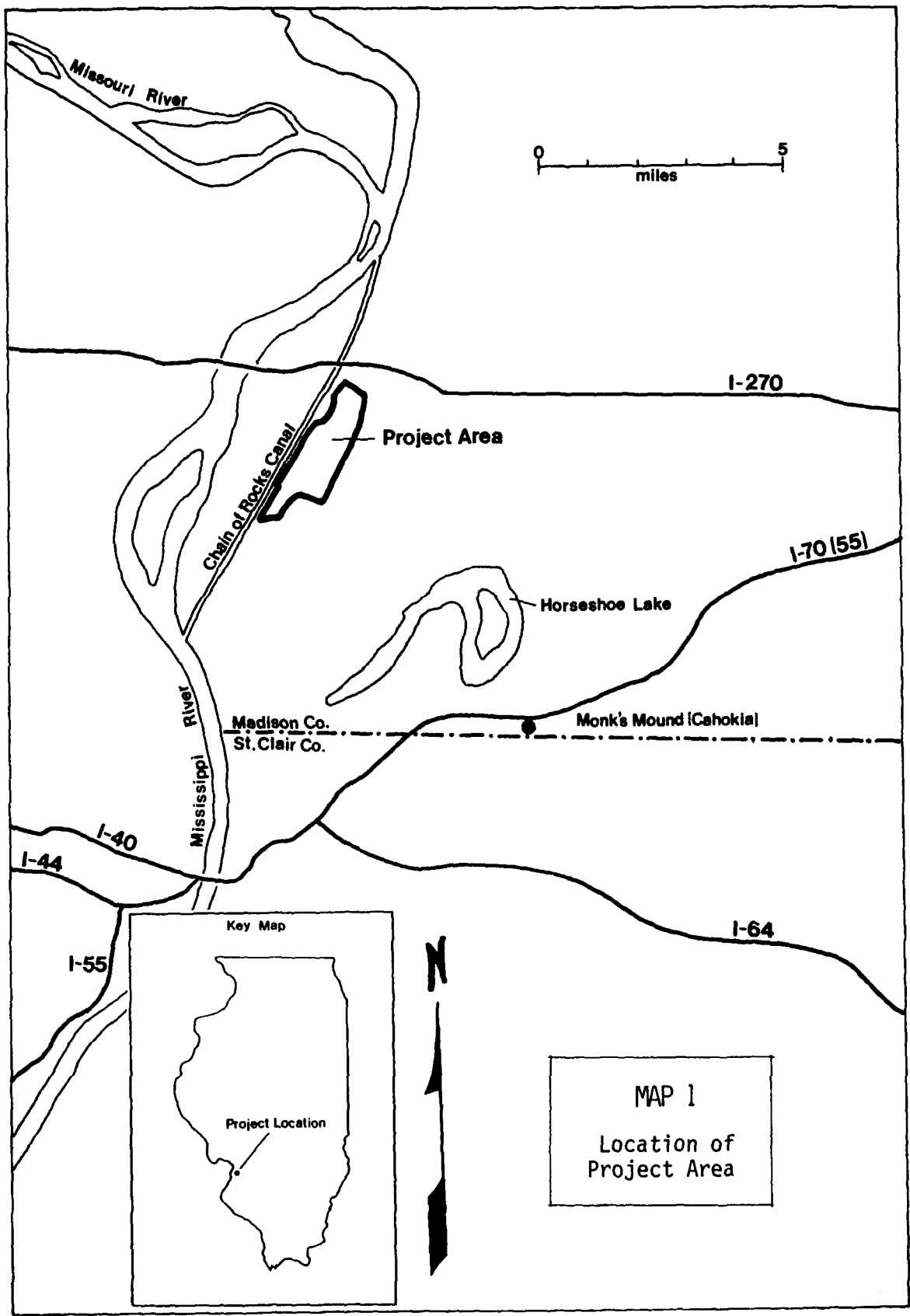
INTRODUCTION

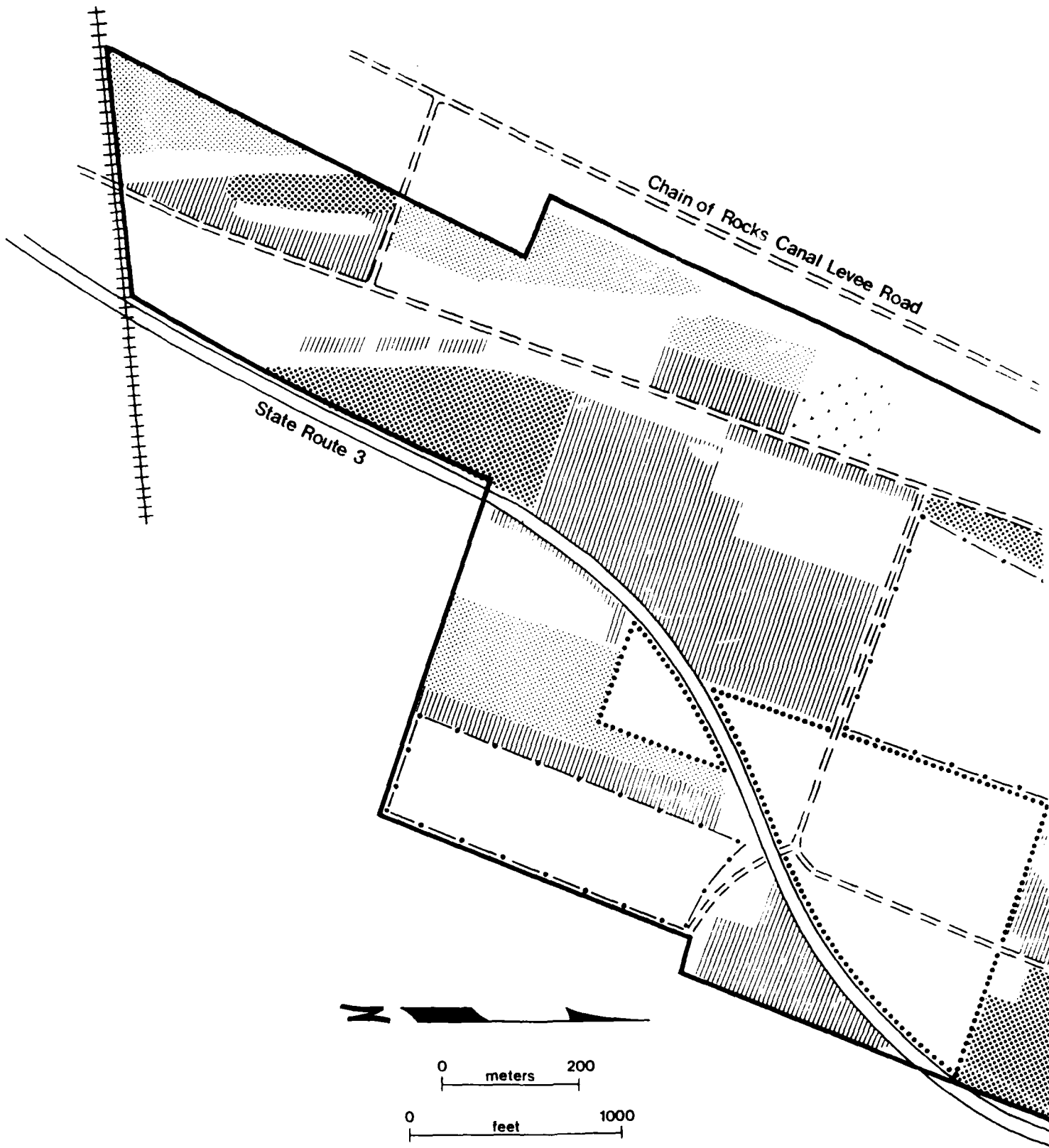
This report details a cultural resources survey conducted by American Resources Group, Ltd., under contract with the U. S. Army, Corps of Engineers, St. Louis District, in the St. Louis Harbor project area situated adjacent to the east bank of the Chain of Rocks Canal, Madison County, Illinois (Map 1).

Field work for the project was conducted from March 4-19, 1985. Spring agricultural field work had not started in the area. Wheat had just broken dormancy, but growth had been minimal. Field conditions varied from extremely muddy to firm-but-wet in sandy or well-drained areas. Due to spongy soils and to avoid damaging the crop, wheat fields were surveyed in the last week of work, when soil conditions had improved.

The survey area contained 303.1 ha (749 acres) (Map 2). A total of 268.7 ha (664 acres) was surveyed. The remaining 34.4 ha (85 acres) could not be surveyed because the owner refused to grant right-of-entry.

This is the second cultural resources survey conducted in the proposed St. Louis Harbor area. In the summer of 1981, Dwyer et al. (1981) surveyed and reported on 101 ha (250 acres) in five quadrates; in addition, a records search and literature review were conducted to assimilate available information on the area.










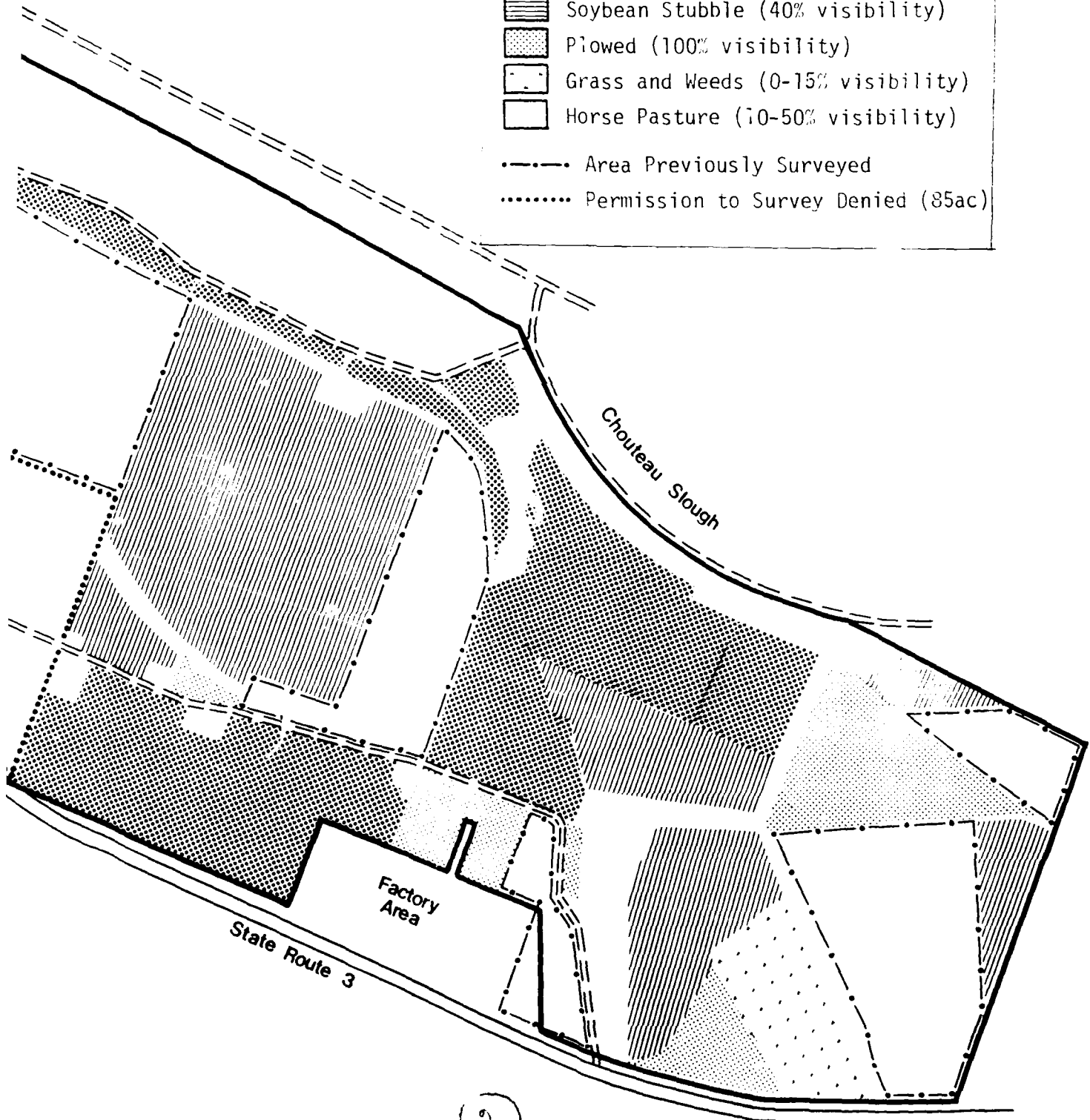


MAP 2

Survey Universe with
Areas Surveyed showing
Ground Cover Conditions
and Areas Previously Surveyed

Area Surveyed

-  Wheat (50% visibility)
-  Soybean Stubble (40% visibility)
-  Plowed (100% visibility)
-  Grass and Weeds (0-15% visibility)
-  Horse Pasture (10-50% visibility)
-  Area Previously Surveyed
-  Permission to Survey Denied (85ac)



ENVIRONMENTAL CONTEXT

As Dwyer et al. (1981:15) noted, most of the project area is in cultivation. However, since 1981 a factory area (Map 2) has been placed on previous agricultural land. Additional land does not appear to have been taken out of cultivation since that time. Dwyer et al. (1981:15-18) detail the physiography and climate for the project area. Although unavailable in 1981, the present project obtained the unpublished Madison County soil maps for the project area at the county Soil Conservation Service office.

Culture history, as reflected by the new and redefined phases resulting from the ongoing FAI-270 archaeological mitigation project (Barels and Porter 1984:12-13, 34-196), has greatly altered the picture presented in Dwyer et al. (1981:20-28). Presently, 4 Late Archaic, 3 Early Woodland, 2 Middle Woodland, 3 Late Woodland, 7 Emergent Mississippian, 4 Mississippian, 1 Oneota, and 2 historic phases are recognized in the American Bottom. To attempt a summary here would be beyond the scope of this report. Barels and Porter (1984) present six chapters containing overviews of these phases as presently understood.

Previous Archaeological Research

Since Dwyer et al. (1981:18-20) summarized previous archaeological research in the American Bottom for their report of work in the St. Louis Harbor area, much has been published on the FAI-270 archaeological mitigation project conducted under the auspices of the Illinois Archaeological Survey (IAS). Annual Reports of Investigations for the FAI-270 project were submitted to the Illinois Department of Transportation and give preliminary accounts of the work undertaken. Barels and Porter (1984) have edited a summary volume which details the research design for the project while presenting an overview of the environmental setting, including important geomorphological information obtained from a number of sites. A summary of Late Archaic through historic occupations are presented in terms of phases of varying temporal extent depending on available data. Overviews of floral, faunal, and bioanthropological information are presented in separate chapters. The FAI-270 excavation strategy of mechanically stripping large areas has produced a unique record of structure types and community plans, particularly for Late Woodland through Mississippian phases.

The definition and excavation of so many prehistoric structures (over 900 have been recorded for the project) provide a reliable catalog of structure types utilized by

prehistoric inhabitants of the American Bottom area over a 3,000-year period. The functional variation in structures from Late Woodland through Mississippian times has been adequately determined by exposing entire community plans and by excavating all their associated features. It is now possible for other investigators to interpret more precisely their samples of larger American Bottom sites. When the Range site data are published, community patterns for the Late Woodland, Emergent Mississippian, and early Mississippian periods will, for the first time, be adequately understood (Porter 1984:250).

The FAI-270 project excavated some 62 sites in the highway right-of-way proper, as well as 33 sites in adjacent bluff areas where soil was being removed for fill (Griffin 1984:256). Barels and Porter (1984:263-265) provide a listing of sites with the corresponding institution, status of work, and report number or status. Eight volumes in the American Bottom Archaeology FAI-270 Site Reports series currently are available from the University of Illinois Press.

The East St. Louis Stone Quarry site cemetery was a Sand Prairie phase Mississippian mortuary site containing the remains of 120 individuals; associated post features and a limestone slab platform represented remains of a charnel structure (Milner 1983a:4, 127-128). Comparisons of mortality and morbidity are made between this site and the Kane Mounds and Florence Street sites (Milner 1983a:124-127).

The Florence Street site (Emerson et al. 1983) contained Early Woodland to Mississippian components. An unusual aspect of the Early Woodland Florence phase occupation is the presence of minute fragments of coal in 22 different features, "suggest[ing] that it was used as a fuel rather than as a pigment" (Emerson et al. 1983:99). The Sand Prairie Mississippian component was comprised of three wall trench structures and associated pits as well as a cemetery containing the remains of at least 48 individuals (Emerson et al. 1983:215, 301). Other cultural components were represented by very limited remains and few features.

McElrath and Fortler (1983) present the results of work at Missouri Pacific #2, a terminal Late Archaic site of predominantly Prairie Lake phase occupation. Concerning excavation strategy and rationale, McElrath and Fortler (1983:19-24) present useful and informative discussions on controlled surface collection and plow zone excavation as well as on the use, effectiveness, and cost of mechanical versus hand excavation.

The Late Archaic occupation of the Missouri Pacific #2 site was organized spatially into several discrete pit clusters. Such clusters, which have been interpreted as discrete processing areas, appear to represent the primary organizational framework of Late Archaic occupations in the American Bottom (McElrath and Fortler 1983:226).

The authors also note the importance of opening up a large percentage of the area by plow zone removal because "a smaller sample... would have produced only a fragmented and incomplete picture" (McElrath and Fortier 1983:227).

Milner (1983b) reports on the Turner and DeMange sites, primarily occupied by small Mississippian households. Extensive plow zone removal allowed for the definition in space of related structures, features, and feature clusters over a series of ridges "comprising a single bottomland point bar. Excavations within the combined site area represent the most extensive effort at plow zone removal in a single bottomland locality undertaken on the FAI-270 Archaeological Mitigation Project" (Milner 1983b:4). The report discusses two factors which probably account for household distribution across the point bar. First, preferred elevation levels for structure placement increase through Mississippian times, perhaps resulting from changes in the water table or the nature of seasonal flooding. Secondly, factors related to shifting agriculture, such as the presence of a group of successional plant communities associated with various stages of field use and abandonment, would have played a part in choosing household locations (Milner 1983b:167-170). In all, the great amount of new data and interpretive discussion presented here adds much to the record concerning small households and their relationships with the greater community during Mississippian times.

The Mund site is a multicomponent, Late Archaic to Mississippian site formed within and on the Cement Hollow alluvial fan, which occasionally required mechanical stripping to a depth of over 3 m (Fortier et al. 1983:1). The Cement Hollow fan:

revealed a complex mosaic of buried occupational surfaces and physiographic features, most of which could not be predicted from the present surface topography. The Mund site investigations point to vast prehistoric resources that must still lie buried in similar fan deposits of the American Bottom (Fortier et al. 1983:381).

The major occupation at the Mund site was the Late Woodland Mund phase community (ca. A.D. 450-600) which produced a "remarkably homogeneous" assemblage of ceramic and lithic materials "distributed relatively evenly" over the site and suggesting that the "occupation was the product of a single community" (Fortier et al. 1983:391). The primary stratigraphic and chronological information for the Rosewood and Mund phases was derived at this site (Fortier et al. 1983:1396).

The BBB Motor site (Emerson and Jackson 1984) contained primarily Edelhardt and Stirling phase components. The Edelhardt phase was represented by 16 structures and associated pits in 3 contemporaneous clusters, each likely representing the "living and storage facilities of an extended family group" (Emerson and Jackson 1984:351-352). The Stirling phase is represented by a temple/mortuary complex organized in three parts with a "central area of random wall trenches, a northern temple area with two structures and a number of graves, and a southern

area with two structures and associated graves" (Emerson and Jackson 1984:352).

The Julien site excavations produced 28 Mississippian structures and numerous pits, posts, and other associated features, in addition to 13 Patrick phase Late Woodland features which clustered together and appeared to be associated with one another (Milner 1984:26-29). The Mississippian occupation of the Julien site and vicinity is characterized as a community made up of clusters of one or two structures and their related features organized linearly along alluvial ridges and separated by active, cultivated plots or ones in various stages of abandonment. The ridges themselves would have been separated by seasonal flooding of the intervening sloughs and marshes (Milner 1984:195). Two community or ritually important structures were located at a point which allowed "reasonably good access across a swale separating two adjacent ridges" (Milner 1984:195). Stirling, Moorehead, and Sand Prairie Mississippian phases are represented at the Julien site. As Milner (1983b:4) notes, the Turner, DeMange, and Julien sites "taken together . . . serve as baseline studies in the archaeological investigation of small, peripherally located communities as integral components of the American Bottom Mississippian settlement system."

The Fish Lake site excavations revealed a single component Patrick phase occupation in two episodes or conceivably a single episode where "superpositioning of features represented seasonal shifts in structure use" (Fortier et al. 1984:216). Whatever the case, the occupation covered no great time interval, as the material assemblage was quite uniform. The Fish Lake and Range sites are the only two sites in the American Bottom where keyhole-shaped structures have been found (Fortier et al. 1984:3). Nine Fish Lake structures are present, including seven keyhole structures interpreted as winter domiciles, a large post structure which the authors favor as a communal spring and summer dwelling rather than a specialized men's house or ceremonial structure, and a small post structure of undetermined use (Fortier et al. 1984:54-56, 217). The Fish Lake site is the eighth and, at present, last volume out in the American Bottom Archaeology FAI-270 Site Reports series.

Kelly (1984) discusses Late Bluff chert utilization on the Merrell tract and notes that "despite the wide variety of cherts available in the American Bottom region, Late Bluff occupants of the Merrell tract (and generally elsewhere in the region) selected Burlington and Ste. Genevieve cherts" (Kelly 1984:43).

Work at the Cahokia Interpretive Center Tract (ICT) has continued intermittently from 1979 to 1982 (Benchley and DePuydt 1982; Fowler and Benchley 1980; Nassaney et al. 1983). Nassaney et al. (1983:33) argue that the "ridged fields," thought to be of possible prehistoric origin, are in actuality modern phenomena. Buried Late Archaic material "at the Cahokia ICT demonstrate the potential value of sealed deposits in analyzing prehistoric human behavior" (Nassaney et al. 1983:114).

METHODOLOGY

The Scope of Work (Appendix A) called for a 100% pedestrian survey defined "as one in which surveyor(s) walk parallel transects spaced 5 m apart. The survey shall be sufficient to determine the number and extent of prehistoric and/or historic cultural properties visible on the surface of each tract." The Scope of Work also limited the area to be surveyed to "cultivated bottomland fields."

Field Methods

The area surveyed contained 268.7 ha (664 acres) and is shown on Map 2, where ground cover and surface visibility are detailed. Also shown on this map are previously surveyed areas not a part of this survey area and an area which could not be surveyed due to the landowner's refusal to grant a right-of-entry.

The areas surveyed were walked in 5 m intervals. When cultural material was found, a plastic wire-shaft flag was placed next to it and surveying continued. As a field or portion thereof was completed, limits of scatter as determined by the flags were drawn onto a map (scale 1:2400). Flagging was practical on all but the largest sites, where artifact density was greatest. Here flagging was used in a more limited way to help define areas of artifact density by sending one surveyor along a transect to flag items either singly or in groups of five or six pieces. This procedure helped the Supervising Archaeologist define the limits of scatter, after which various areas could be collected.

Three types of collections were made:

- a) 100% surface collections - these generally were limited to sites with a small areal extent and few artifacts.
- b) 20% systematic collections - these generally were conducted on sites of larger areal extent and/or on sites of greater artifact density.
- c) Grab sample collections - these were made on all historic sites and on prehistoric sites with poor ground surface visibility.

The procedure for a 100% surface collection included collecting all flagged material and all other material which could be found by an intensive random walk over the site.

The procedure for a 20% systematic surface collection involved walking the site area in 5 m intervals and collecting all material in a meter-wide path. Material outside the path was collected only if it provided diagnostic information for the site in question. Operationally, this meant collecting all observed rim sherds and bifaces. Finally, a random walk over the site was made to recover additional diagnostic items. Unmodified rock, if not collected, was noted on the site forms.

In addition to defining the limits of scatter, some sites with moderate to large areas of scatter and/or obvious artifact concentrations had sketch maps made which showed the approximate location of artifacts, artifact classes, or areas of artifact density. Sites where artifact density appeared uniform and where the area of scatter was not large had only the limits of scatter mapped.

All sites were mapped on U. S. Army, Corps of Engineers aerial photo/topographic blueprint sheets (scale 1:2400, contour interval 2 ft) and on USGS 7.5' topographic maps. At least one black and white photograph was made showing the site area and vicinity.

For this project, a site was defined as three or more items of cultural debris where no one item was located more than approximately 45 m from another item. An isolated find was defined as one or two items; if two, they were within less than approximately 45 m of each other and each removed at least 45 m from any adjacent site area of scatter boundary.

When an isolated find was located, a random search was made in that vicinity. Occasionally, the find would turn into a site. In fact, the majority of the smallest sites originally were flagged as single finds and only became sites after an intensive random search of the find area.

Historic sites were defined as areas of intensive material scatter. Intensive means that enough material is present to give the surveyors the impression that a house, building, or other structure was present in the area. Isolated historic finds were not recorded. Various amounts of historic debris were widely scattered over the survey area, particularly along roadways. Apparently, years of dumping have occurred in the area, and this trash has been widely scattered by agricultural activity.

Laboratory Methods

Materials recovered by the survey were processed in the laboratories of American Resources Group, Ltd., Carbondale, Illinois. The prehistoric ceramics were analyzed by George Holley; the prehistoric lithics were analyzed by Ron Pulcher; and the historic collections were analyzed by Jerry Moore. Each analysis is presented below as a separate appendix. Each appendix details specifics of the analytical framework employed.

Site numbers used in this report are those of the Illinois Archaeological Survey (IAS). Materials from this survey will be curated at the Illinois State Museum. Due to a delay in receiving site numbers, the sketch maps in Appendix G have only St. Louis Harbor (SLH) field numbers. A cross-reference table accompanies the maps to correlate IAS numbers and SLH field numbers.

SURVEY RESULTS

Forty two archaeological sites were located during the survey. Forty had prehistoric remains; five had historic occupations. All have been assigned IAS numbers and are described below. Isolated finds (IF) of prehistoric material numbered 47 and are tabulated below by their IF numbers -- IAS numbers were not assigned. Appendix B gives details of ground cover and type of surface collection taken on each site. Appendices C, D, and E contain analyses of prehistoric ceramics, lithics, and historic materials, respectively. Completed IAS forms can be found in Appendix F. Site sketch maps are in Appendix G. Appendix H has the government furnished project map showing site locations and areas surveyed. Appendix I contains USGS 7.5' topographic maps with site locations marked.

Prehistoric Site Descriptions (by IAS number)

The IAS number appears first; in parentheses are the SLH field number(s) and the map number(s) of the appropriate sketch map(s). Figures and plates relating to the site also are listed.

Ms-1044 (SLH-1, Map G-1, Figures C-1 and C-2, Plate 3)

The northeast portion of this site (3,500 m²) was recorded by Dwyer et al. (1981:38) and was not revisited during this survey. An additional 24,000 m² of scatter was defined in three areas naturally bounded by manmade landscape features. Ceramic data (Table C-3) indicate a predominantly Emergent Mississippian occupation, with Late Woodland and Mississippian also present. Late Woodland through Mississippian period ceramics are present on Area B, while Area C has evidence for Emergent Mississippian and Mississippian occupations. Hoe flakes were found on Areas A and B. Diagnostic bifacial tools were not found. Elevation ranges from a low of 126.8 m in Area C to a high of 130.5 m in Area A. Map G-1 shows areas of debris concentration on Areas A and B. Ralph Beckman, who farms the land, had a baseball-size chunk of hematite which he was positive he found at the north end of Area A. Historic material on the site appears to have resulted from many years of roadside dumping.

Ms-1047 (SLH-20 and 21, Map G-2, Figures C-1 and C-2, Plates 1 and 2)

The northern portion of this site, which covers about 35,000 m², was reported by Dwyer et al. (1981:39-40) and not revisited by this survey. The portion of the site in the present survey area was collected in six units based upon manmade features on the landscape.

These six units total an additional 92,600 m² of scatter. Table C-3 indicates Emergent Mississippian and Mississippian period occupation on all six areas. One small, triangular side-notched point came from Area 21D. Hoe flakes or fragments were on all areas except 21C and 21D. One highly weathered piece of limestone may have been a digging implement or hoe on Area 21A. A low, wet area running through Areas 21A and 21B may be the result of modern farming practices or due to removal of a small amount of fill for use around the nearby farmstead. Nevertheless, a heavy concentration of prehistoric debris remains throughout this very wet area. Elevation on the site ranges from 129.2 m to 129.8 m. Modern disturbance has been varied, including levee, road, pipeline, and farmstead construction.

Ms-1049 (SLH 17, Map G-3)

This IAS number was originally assigned to the Odd Fellows Cemetery. The number now includes the prehistoric component defined in this survey which extends from the north and west edges of the cemetery. Map G-3 shows an area of concentration of chert and two sherds. The ceramics indicate a possible Late Woodland through Emergent Mississippian occupation. Elevation ranges from 129.2 m to 129.8 m. A ditch resulting from modern erosion runs north-northwest through the site and extends beyond the northwest edge. The site has a minimum area of scatter of 4,700 m² but continues southeast into the west block of the nearby cemetery and perhaps south into land which could not be surveyed.

Ms-1050 (SLH-16, Map G-3, Figure G-2)

This number was originally assigned to the Squire Family Monument. The site has been arbitrarily divided into north (Area A:2,900 m²) and south (Area B:2,350 m²) sections. This survey did not have permission to enter the Area B section. Area A produced only historic remains (see Appendix E). A grab sample from Area B, made by Mr. Terry Norris of the St. Louis District, Corps of Engineers office, was the only collection available from Area B. It indicated an Emergent Mississippian and Mississippian occupation of the south part of the site. Elevation at Ms-1050 runs from 129.2 m to 130.2 m. Map G-3 shows another site just southwest of Ms-1050 with approximate boundaries as defined by Mr. Norris. He reports the site to contain Late Woodland to Mississippian material. An IAS number was not requested for this site; it was assigned field number SLH-43 (Map G-3). The present survey did not have permission to enter the property; therefore, no further information on the site is available.

Ms-1216 (SLH-2, Map G-4)

This site contains predominantly historic house site remains. One grit-tempered sherd was lost prior to bagging and indicates a Late Woodland to Emergent Mississippian occupation. The only other prehistoric artifact from the site was a single utilized chert flake. Map G-4 shows the location on the site of two circular features which were visible on the Corps of Engineers aerial photo map. They were not

visible in the field but may represent cisterns. A large quantity of clinders on the western portion of the site probably relates to the field access road off the levee and may not be a result of the historic occupation at the site. Elevation at this 7,500 m² site ranges from 129.2 m to 129.5 m.

Ms-1217 (SLH-3, Map G-4, Plates 1 and 2)

This approximately 700 m² site contained two shell-tempered and one grog/grit-tempered sherd. One small triangular point also came from the site. The site lies at an elevation of 129.5 m. The few items recovered indicate an Emergent Mississippian to Mississippian occupation.

Ms-1218 (SLH-4, Map G-4)

This 600 m² site contained three grog/grit-, two limestone-, and one shell-tempered sherd. The site lies immediately northeast of Ms-1217 at an elevation of 129.5 m. An Emergent Mississippian to Mississippian occupation is indicated.

Ms-1219 (SLH-5, Map G-1, Figure C-2)

The site lies at an elevation of 129.5 m and covers approximately 3,800 m². Map G-1 shows an area of debris concentration along the west edge of the site. Ceramic evidence indicates Emergent Mississippian to Mississippian occupation.

Ms-1220 (SLH-6, Map G-4)

This Late Woodland to Emergent Mississippian site covers 1,100 m² and lies at an elevation of 129.5 m. The site contained only five grog/grit-tempered sherds and six lithic items.

Ms-1221 (SLH-7, Maps G-1 and G-4)

This Emergent Mississippian to Mississippian site covers 800 m² and lies at an elevation of 129.5 m. One grog/grit- and one shell-tempered sherd were found along with eight lithic items.

Ms-1222 (SLH-8, Map G-1)

This 1,000 m² site produced 4 shell-tempered sherds and 20 lithic items, indicating a Mississippian occupation. The material represents a 100% surface collection except for two unmodified cobble fragments left on the site.

Ms-1223 (SLH-9, Map G-4)

This Late Woodland to Emergent Mississippian site lies at an elevation of 128.9 m and covers 700 m². Four items represented by two grog/grit-tempered sherds and two lithic items were recovered from the site. A low, wet area separates this site from the historic site, Ms-1216, which lies to the northeast. Levee construction may have

disturbed part of the site; however, the low density of material makes it impossible to judge whether part of the site was damaged by the levee or whether the site is just the light scatter found by this survey.

Ms-1224 (SLH-10, Map G-4)

This 500 m² site, lying at an elevation of 128.6 m, produced only five chert flakes. Cultural affiliation could not be assigned. The site is unusual in that it lies just off the south end of a small 20 cm rise in a very low, wet area. The nearby rise contained no material. Apparently, these flakes represent some activity taking place in this low, slough-like environment.

Ms-1225 (SLH-11, Map G-4)

This 1,650 m² Late Woodland to Emergent Mississippian site lies at an elevation of 128.9 m and was 100% surface collected except for four or five pieces of limestone left in the field.

Ms-1226 (SLH-12, Map G-4)

This 750 m² site lies just northeast of Ms-1228. It produced only five lithic items on the edge of higher ground just west of a low area between Old Slough Road and Ms-1228. The elevation is 129.8 m. Cultural affiliation could not be assigned.

Ms-1227 (SLH-13, Map G-5)

This Late Woodland to Emergent Mississippian site is under a modern house and garage location. Approximately 1,000 m² at an elevation of 130.2 m remain undisturbed, mostly south of the house. However, a small portion of the site remains north of the house where borrow fill removal stopped. The site may have been much larger, extending into the borrow area (Map G-5), but this cannot be determined now. Appendices B through D combine the collections from the two sides of the modern house place.

Ms-1228 (SLH-14, Map G-4, Plates 2 and 3)

This Emergent Mississippian to Mississippian site covers 18,800 m². Map G-4 shows the distribution of shell- and grit-tempered sherds as well as the location of other selected artifacts. The site may continue west under the nearby farmstead; however, it does not continue south across the road into the adjoining field. Map G-4 shows a differential distribution for grit- and shell-tempered ceramics, the former being concentrated in the west-central part of the site, while the latter have a more scattered distribution centered on the northern third of the site.

Ms-1230 (SLH-18, Map G-3)

This 4,200 m² site lies at an elevation of 129.2 m to 129.8 m. Ten chert items were recovered. Cultural affiliation could not be assigned. The site did not continue east of the road.

Ms-1231 (SLH-19, Maps G-2 and G-6, Plate 2)

A Late Archaic/Early Woodland affiliation is indicated by the contracting-stem point (Plate 2). Emergent Mississippian to Mississippian occupations can be assigned on ceramic evidence. The site covers 5,500 m² at an elevation ranging from 128.6 m to 129.2 m. The site was arbitrarily divided into Area A (south part) and Area B (north part) by the powerline and field edge cutting through the site. The two grit-tempered sherds are shown on Map G-2; the shell-tempered sherd was not noted during surface collection. The north portion of the site has a very light scatter of material.

Ms-1232 (SLH-22, Map G-6)

The site covers 600 m² at an elevation of 129.2 m. A Late Woodland to Emergent Mississippian occupation is indicated by ceramic evidence. Levee construction may have impacted the site, although the light scatter of material makes this difficult to assess.

Ms-1233 (SLH-23, Maps G-2 and G-6)

This Emergent Mississippian to Mississippian site covers a minimum of 7,100 m² at an elevation of 129.2 m to 129.8 m. The adjacent levee to the west probably covers part of the site. However, the field west of the levee bore no evidence of any continuation of the site area of scatter. Although divided from site Ms-1047, this site very probably is a continuation of the scatter of Ms-1047 running under the farmstead which lies between the two sites.

Ms-1234 (SLH-24, Map G-6, Plate 2)

Lying at an elevation of 128.9 m, this 2,800 m² site was, at the time of survey on March 12, 1985, just west of an area of standing water. Material was present throughout the very low swale here and, aside from Ms-1224, this is the only other site from the survey occurring in such a low, wet area. Given the size and placement of this swale, it does not seem to be of modern origin as does the low area on Ms-1047. Ceramics present indicate a Late Woodland through Mississippian occupation. One expanding-stem point (Plate 2) is of uncertain cultural affiliation.

Ms-1235 (SLH-25, Map G-6, Plate 2)

This 1,900 m² site, lying at an elevation of 128.6 m, contains evidence for Late Woodland to Emergent Mississippian occupation based on ceramic evidence. One contracting-stem point (Plate 2) may indicate a Late Archaic/Early Woodland component. Immediately southwest of Ms-1235 is an area with numerous isolated finds (Map G-6).

Ms-1237 (SLH-27, Map G-5, Figure C-1)

This Late Woodland site was located in a horse pasture. One rim sherd and one chert flake were found. Roughly estimated, the minimum

site area appears to be 1,900 m². On or near the site, Mr. Ralph Beckman (personal communication 1985) reports that his father once plowed out two human burials. The general area is highly disturbed, especially to the west around a small farmstead. The elevation ranges from 128.6 m to 129.8 m.

Ms-1238 (SLH-28, Map G-7, Plate 3)

This site is entirely represented by five chert items -- four utilized flakes and one Mill Creek chert pick fragment. If Mill Creek hoes are assumed to postdate A.D. 900, as Kelly et al. (1984b:157) indicate, then this site probably was occupied after that date. Both this site and nearby Ms-1239 may be only remnants of larger sites which once were between the 127.4 m contour (Map G-7) and the levee to the south. One or more feet of dirt appear to have been removed from an area beginning at the 127.4 m contour and continuing south toward the levee. Much of the levee subsequently has been removed for use as fill. The only evidence that supports the idea of earlier site destruction by levee construction is the presence of the two isolated finds (IF-46 and 47, Map G-7) exactly on the removed levee alignment. A poorer argument would question why material on Ms-1238 and Ms-1239 lies only on the steep north slope from the 127.4 m contour down to the low, wet area below (Map G-7) and not on the immediately adjacent ridge above the slope. If these are the entire original areas of scatter, the placement of the sites in these positions is unusual for the survey area. The site lies between 125.6 m and 128.0 m.

Ms-1239 (SLH-29, Map G-7, Plate 2)

This Emergent Mississippian through Mississippian site covers a minimum of 2,800 m² between elevations of 125.6 m and 128.0 m. See the discussions above concerning possible destruction of this site and of site Ms-1238 by levee construction. One triangular projectile point was recovered from the site (Plate 2).

Ms-1240 (SLH-30, Map G-8, Plate 2)

This Late Woodland to Mississippian site covers a minimum of 18,000 m² and lies between elevations of 128.6 m and 129.2 m. The site may extend south under a present day house area. It was arbitrarily divided into three areas based on present-day landscape features. In Areas A and B, only ceramic and selected stone artifacts were plotted (Map G-8). Area C had all material plotted. Ceramics appear to cluster in the western half of Areas A and B. Only one sherd occurred in Area C. The site has been partially disturbed by road, ditch, and house construction. The one straight-stem point (Plate 2) from Area A is not readily diagnostic but may indicate an occupation anywhere from the Late Archaic to Emergent Mississippian.

Ms-1241 (SLH-31, Map G-8)

This 1,100 m² site lies between elevations of 129.2 m and 129.5 m. Late Woodland to Emergent Mississippian occupation is indicated by

ceramic evidence. The site may have been larger at one time. A factory area now covers the eastern portion of the site. Although not shown on Map G-8, the south half of the site was in wheat and the north half was plowed at the time of survey.

Ms-1242 (SLH-32, Map G-9)

This 500 m² Mississippian site lies between elevations of 126.2 m and 126.8 m, making it, along with Ms-1243, one of the two lowest lying sites found in the survey. The site is almost entirely restricted to a small area of sandy soil at the point of a ridge.

Ms-1243 (SLH-33, Map G-9)

This Late Woodland to Mississippian site lies between elevations of 125.9 m and 126.8 m on a silty clay soil. As with site Ms-1242 above, this is one of the two lowest lying sites found in the survey area and covers 600 m².

Ms-1244 (SLH-34, Map G-3, Plate 3)

This 3,800 m² site, lying at an elevation between 129.2 m and 129.8 m, is of unknown cultural affiliation. All material recovered is plotted on Map G-3. The limestone was left in the field.

Ms-1245 (SLH-35, Map G-10, Plate 1)

This Emergent Mississippian through Mississippian site lies between 129.2 m and 129.8 m in elevation and covers 9,400 m². All material recovered is plotted on Map G-10. Grit ceramics cluster at the southwest part of the site. The two shell-tempered sherds appear in the northern portion of the site.

Ms-1246 (SLH-36, Map G-10)

This Late Woodland to Emergent Mississippian site covers 6,100 m² at an elevation of 129.8 m. All material recovered is plotted on Map G-10.

Ms-1247 (SLH-37, Map G-10, Plate 2)

This Emergent Mississippian site covers 3,800 m² at an elevation of 129.2 m to 129.5 m. Four items were recovered and are plotted on Map G-10. The small corner-notched point is shown in Plate 2. At the north end of the site is a very low, wet area which had standing water at the time of this survey.

Ms-1248 (SLH-38, Map G-10)

This Emergent Mississippian to Mississippian site lies between 129.2 m and 130.2 m in elevation and covers 9,400 m². Nine items were recovered. Grit-tempered sherds were in the northern portion of the site; all material collected is plotted on Map G-10.

Ms-1249 (SLH-39, Map G-10)

This 4,200 m² Late Woodland to Emergent Mississippian site lies between 128.9 m and 129.5 m in elevation. The Corps of Engineers base map appears to lack an elevation line for the 129.2 m interval which should roughly define the site area. Five items were recovered on the site and are plotted on Map G-10.

Ms-1250 (SLH-40, Map G-11)

This Emergent Mississippian to Mississippian site lies between elevations of 128.9 m and 129.2 m and covers a minimum of 6,200 m². All material recovered is plotted on Map G-11. Part of the southeast portion of the site lies under Illinois Route 3.

Ms-1251 (SLH-41, Map G-11)

This site of unknown cultural affiliation lies at an elevation of 128.6 m and covers 3,300 m². It is positioned on a west-facing incline leading to a low area east of the levee shown in Map G-11. The material plotted on Map G-11 was collected except for the limestone.

Ms-1252 (SLH-42, Map G-8, Plates 1 and 2)

This site can be assigned to the Patrick or later phases based solely upon the one small triangular point (Plate 2), as Kelly et al. (1984a:122) state that during the Patrick phase, "the production of small flake points . . . [is] interpreted as indicating a shift from the use of the atlatl to the use of bow and arrow weaponry." The site covers 3,300 m² at an elevation of 128.6 m. All material collected is plotted on Map G-8. Ceramics were not located despite an intensive random search. The site appears to extend beyond the present survey area into an area previously surveyed.

Historic Site Descriptions (by IAS Number)

Ms-1044 (SLH-1, Map G-1)

Site Ms-1044, Area A, covers 3,300 m² and is bordered by a levee on the east and a road on the north. The elevation is 129.2 m to 130.5 m. The artifacts were found near the road and probably result from modern trash dumping.

Ms-1229 (SLH 15, Map G-12)

Site Ms-1229 covers 5,150 m² and is bordered by Old Rock Road to the west, a borrow pit to the east, and a railway line about 95 m to the south. The elevation is 126.2 m. Artifacts indicated the area was a house site, further evidenced by the presence of flower bulbs (not collected). The eastern side of the site had a heavy concentration of cinders and brick rubble. One red brick fragment, recorded but not collected, was embossed SUPER.; a complete brick from site Ms-1236

showed the whole word to be SUPERIOR. The south side had clinder but little brick. The west side had a partially exposed concrete footing. Cut limestone and cut sandstone covered much of the site. This could mean the house was built of brick, sandstone, and limestone.

Ms-1050 (SLH-16, Map G-3)

Site Ms-1050, Area A, covers 2,900 m² and is bordered on the northwest side by woods. The Squire Family Monument (Ms-1050, Area B), is on the southwest portion of the site. Ms-1049, the Odd Fellows Cemetery, is located to the east. The elevation is 129.2 m to 130.2 m. Artifact density was relatively low, but items recovered indicate a probable house site.

Ms-1216 (SLH-2, Map G-4)

Ms-1216 covers 7,500 m² and is bordered on the west by a levee about 70 m to the west. The site contains predominantly historic house site remains. One prehistoric grit-tempered sherd was lost prior to bagging and indicates a Late Woodland to Emergent Mississippian occupation. The only other prehistoric artifact from the site was a single utilized chert flake. Map G-4 shows the location on the site of two circular features which were visible on the U. S. Army, Corps of Engineers aerial photograph map. They were not visible in the field but may represent cisterns. A large quantity of cinders on the western portion of the site probably relates to the field access road off the levee and may not be a result of the historic occupation at the site. Elevation of the site is 129.2 m to 129.5 m.

Ms-1236 (SLH-26, Map G-12)

Site MS-1236 covers 12,300 m² and is bordered on the east by Old Rock Road. The road runs on the border of the site where modern trash, including beer bottles, hub caps, and the like, are common. Brick, limestone, and concrete rubble were noted but not collected; a red brick was stamped SUPERIOR, and a yellow brick was stamped EVANS & HOWE, ST. LOUIS. Cinders were abundant on the northwest side of the site. A 3 ft diameter hole, 1 ft deep and circular in plan view, attests to the recent collapse of some underground cavity. The site has small amounts of domestic refuse; however, the predominant remains indicate some commercial use. Elevation of the site is 125.0 m to 126.8 m.

Plate 1

Lithic Artifacts

- a. Ms-1245; core, Burlington chert
- b. Ms-1047, Area 20B; core, Mill Creek chert, hoe polish remaining on core
- c. Ms-1217; core, Burlington chert
- d. Ms-1252; core, Burlington chert
- e. Ms-1047, Area 21B; sandstone abrader



1a



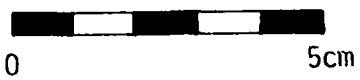
1b



1c



1e



0

5cm



1d

Actual Size

Plate 2
Lithic Artifacts

- a. IF-1; contracting-stemmed point, Dickson, cf. Harn 1971:53 (K)
- b. Ms-1231, Area A; contracting-stemmed point, Dickson (D)
- c. Ms-1235; contracting-stemmed point, Dickson (?) (B)
- d. Ms-1240, Area A; straight-stemmed point, Kramer, cf. Munson 1971:7 and Harn 1971:49 (B)
- e. IF-19; straight-stemmed point, unclassified (B)
- f. Ms-1234; expanding-stemmed point, unclassified (Unk)
- g. Ms-1247; small corner-notched point, Koster (?), cf. Munson 1971:12 and Harn 1971:75 (B)
- h. Ms-1228; side-notched triangular point, Cahokia, cf. Scully 1951:15 (B)
- i. Ms-1047, Area 21D; side-notched triangular point, Cahokia (?) (B)
- j. Ms-1228; triangular point, Madison, cf. Scully 1951:14 (B)
- k. Ms-1239; triangular point, Madison (Unk)
- l. Ms-1217; triangular point, Madison (B)
- m. Ms-1252; triangular point, Madison (B)
- n. IF-17; triangular point, Madison (B)

Chert Source: (B) Burlington
(K) Kinkaid
(D) Dongola
(Unk) Unknown



2a



2b



2c



2d



2e



2f



2g



2h



2i



2j



2k



2l



2m



2n

Actual Size

Plate 3
Lithic Artifacts

- a. IF-43; biface fragment, misc. (Unk)
- b. Ms-1244; biface fragment, misc. (B)
- c. Ms-1228; biface fragment, misc. (MC, heat treated)
- d. Ms-1044, Area B; uniface, misc. (B)
- e. Ms-1044, Area B; uniface, misc. (B)
- f. Ms-1238; biface fragment, misc. (MC, no hoe polish, haft
polish present, heavy marginal edge grinding)
- g. Ms-1228; graver (B)
- h. Ms-1044, Area B; graver (B)
- i. Ms-1044, Area B; graver (B)

Chert Source: (B) Burlington
(MC) Mill Creek
(Unk) Unknown



3a



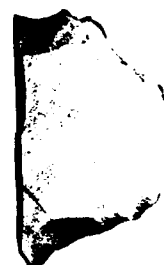
3b



3c



3d



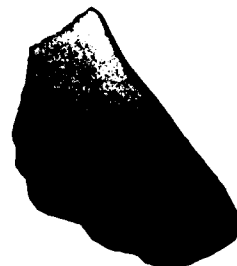
3e



3h



3f



3g



3i

Actual Size

STATEMENT OF SIGNIFICANCE

The cultural resources reported here have varying contributions to make to the prehistory and history of the American Bottom. Of the prehistoric sites, at least two are villages or hamlets in the group which Fowler (1978:471) has called "fourth-line communities." These may be related to the nearby Mitchell site to the east. The survey also defined numerous smaller sites, many of which may represent occupations by one or more households (Milner 1983b:4). At yet a lower level in the settlement system are "activity" sites represented by extremely sparse material scatters or by isolated finds. In the St. Louis Harbor project area, an opportunity exists to view these sites as they relate to nearby household locations and the fourth-line communities. The survey's detailed delineation of surface scatters, the tendency to "split" rather than "lump" site areas, and the mapping of intrasite material concentrations or artifact classes were conducted so as to facilitate any later phase II work as well as to aid in evaluating potential significance.

Recommendations here are based on the evaluation of the 42 recorded archaeological and historical sites against the established criteria for nomination of cultural properties to the National Register of Historic Places (NRHP) and the professional experience of the Principal Investigator and the Supervising Archaeologist. The NRHP criteria are as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feelings, and association and:

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

- (d) that have yielded, or may be likely to yield, information important in prehistory or history (Federal Register 1976:1595).

Prehistoric Sites

Table 1 summarizes potential National Register of Historic Places eligibility along with site size, artifact density, cultural affiliation, and site type.

Site size is given in square meters and represents total area of scatter. Artifact density ranges from 0.2 (10^{-2}) to 9.5 (10^{-2}) items per m^2 , adjusted to a 100% surface collection but not adjusted for ground visibility. Cultural affiliation is primarily based on ceramic data (Appendix C, Table C-3) and, to a lesser extent, on the lithic analysis (see Prehistoric Site Descriptions and Appendix D, Table D-1).

Two groups of sites (Ms-1044 and Ms-1219; Ms-1047, Ms-1233, and Ms-1234) each represent "fourth-line communities" -- sites without mounds which are "only a few hectares in extent" (Fowler 1978:471). Fowler, in discussing Mississippian site locations, notes that "almost all the sites are located within the bottomland wet prairie zone" (1978:471, Fig. 15.1). His map of sites in the American Bottom (1978:469) appears to show the Ms-1047, Ms-1233, Ms-1234 site area on the bank of the Mississippi River just below the mouth of the Missouri River. However, the site report of Dwyer et al. (1981:107-109) indicates no previous visit by professional archaeologists. Whatever the case, this site group and the Ms-1044, Ms-1219 area are primarily Emergent Mississippian fourth-line communities. They have two unusual locational aspects -- both are outside the wet prairie zone and both are very close to the present course of the Mississippi River. Each group has the potential to provide information on questions regarding settlement, community patterns, and subsistence. In addition, the unique locational aspects give an opportunity to view settlement in the American Bottom from a broader perspective than has been possible to date.

Twenty seven sites probably represent family or extended-family occupation sites, referred to here as households or farmsteads (Table 1). It is expected that these sites will contain the subsurface remains of one or two dwellings and associated pit features. The length of occupation appears to be very short in archaeological terms; information from all of these sites will be required to address questions concerning the patterns of changing settlement and subsistence in the vicinity of the nearby fourth-line communities. Assignment to the household or farmstead type has not been made strictly on the presence or absence of ceramics, as is too often the case. Ceramics could easily have been missed on the surface or have been present and simply not at the surface. The definition between possible households and activity areas was made on local topographic context; the activity loci generally are in areas too low and wet to have been practical house sites. Two sites (Ms-1233 and Ms-1247) fall on the borderline between activity loci and potential households in having low, wet topographic placement.

Table 1. Potential NRHP Sites

IAS No. (MS-)/ Area	A Lithic Items (#)	B Ceramic Items (#)	C Site Size (m ²)	Artifact Density* (A±B) C X10 ⁻²	Cultural		Prehistoric Site Type***	Eligibility	
					Affiliation			Prehist.	Hist.
1044/A	22	8	3,300	1.6	EM	M	FL	Yes	No
1044/B	109	63	15,300	5.6	LW	EM	FL	Yes	Yes
1044/C	13	2	5,400	0.3	em	m	FL	Yes	Yes
1047/20A	37	26	7,500	4.2	EM	M	FL	Yes	Yes
1047/20B	124	90	38,000	2.8	EM	M	FL	Yes	Yes
1047/21A	54	83	13,200	5.2	EM	M	FL	Yes	Yes
1047/21B	49	88	12,300	5.6	EM	M	FL	Yes	Yes
1047/21C	37	56	11,800	3.9	EM	M	FL	Yes	Yes
1047/21D	36	85	9,800	6.2	EM	M	FL	Yes	Yes
1049	29	2	4,700	3.3	LW	em	H	Yes	Yes

*density corrected to 100% surface collection minus unmodified stone left in field

**lower case letters correspond to Appendix C, Table C-3 period criteria; upper case to phase diagnostic criteria; affiliations based solely on lithic items are in lower case and parentheses

la, LA = Late Archaic em, EM = Emergent Mississippian UNK = Unknown
 ew, EW = Early Woodland m, M = Mississippian
 lw, LW = Late Woodland H = Historic

***FL = fourth-line community
 H = household, farmstead
 A = activity locus
 C = cemetery
 UNK = unknown

+ = sherd lost prior to bagging

++ = prehistoric site would be isolated find but has IAS number due to historic occupation

Table 1. (Cont'd)

IAS No. (Ms-)/ Area	A Lithic Items (#)	B Ceramic Items (#)	C Site Size (m ²)	Artifact Density* (A+B) C X10 ⁻²	Cultural Affiliation	Prehistoric Site Type***	Eligibility Prehist. Hist.
1050/A			2,900	-		H	Yes
1050/B	3	2	2,350	-	EM	M	Yes
1216	1	1+	7,500	++	lw em	H	No
1217	4	4	700	1.1	EM	M	Yes
1218	17	6	600	3.8	EM	M	Yes
1219	43	29	3,800	9.5	EM	M	Yes
1220	6	5	1,100	1.0	lw em	H	Yes
1221	8	2	800	1.3	em	m	Yes
1222	20	4	1,000	2.4	em	m	Yes
1223	2	2	700	0.6	lw em	A-H	Yes
1224	5		500	1.0	UNK	A	No
1225	9	3	1,650	0.7	lw em	H	Yes
1226	5		750	0.7	UNK	H	Yes
1227	9	7	1,000	-	lw em	H	Yes
1228	93	16	18,800	2.9	EM	M	Yes
1229			5,150	-	EM	H	Yes
1230	10		4,200	1.2	UNK	H	Yes
1231/A	9	2	1,050	5.2	(la) (ew)	H	Yes
1231/B	8	1	4,550	1.0	em	m	Yes
1232	5	2	600	1.2	lw em	H	Yes
1233	21	12	7,100	2.3	EM	M	Yes
1234	20	4	2,800	4.3	lw em	FL	Yes
1235	3	3	1,900	0.3	lw em	H	Yes
1236			12,300	-		H	No
1237	1	1	1,900	-	LW	C	Yes
1238	5		1,500	0.3		UNK	No
1239	26	4	2,800	1.1	EM	M	Yes
1240/A	21	6	11,650	0.2	(la)	H	Yes
1240/B	15	8	4,000	0.6	lw em	M	Yes
1240/C	8	1	2,350	1.9	lw em	H	Yes

Table 1. (cont'd)

IAS No. (Ms-)/ Area	A Lithic Items (#)	B Ceramic Items (#)	C Site Size (m ²)	Artifact Density* ($\frac{A+B}{C}$) X10 ⁻²	Cultural Affiliation	Prehistoric Site Type***	Eligibility Prehist. Hist.
1241	8	1	1,100	4.1	lw em	H	Yes
1242	16	1	500	3.4	m	H	Yes
1243	9	3	600	2.0	lw em m	H	Yes
1244	7		3,800	0.9	UNK	H	Yes
1245	17	7	9,400	1.3	EM M	H	Yes
1246	7	3	6,100	0.8	lw em	H	Yes
1247	3	1	3,800	0.5	em	A-H	Yes
1248	6	3	9,400	0.5	EM M	H	Yes
1249	2	3	4,200	0.6	lw em	H	Yes
1250	16	2	6,200	1.5	EM M	H	Yes
1251	5		3,300	0.2	UNK	A	No
1252	11		3,300	1.7	(lw) to (m)	H	Yes

The 27 household and 2 activity locus/household sites (Table 1) are potentially significant because they contain possible subsurface structural and feature information that will provide data on community patterning, subsistence, and an understanding of settlement distribution in the environs of the fourth-line communities nearby.

Two activity loci (Ms-1224 and Ms-1251) are defined. Each lies in or immediately adjacent to a slough or swamp area and probably represents remains from some specialized activity related to this environment. A third larger but similarly located site (Ms-1234) has been included in the group of sites comprising the largest fourth-line community (Ms-1047, Ms-1233, and Ms-1234).

Site Ms-1237 was reported by Mr. Ralph Beckman (personal communication 1985) as an area which had two aboriginal burials plowed out many years ago. The present survey could not positively confirm the location as a prehistoric cemetery. This site is considered potentially significant because it has the possibility of yielding important information on human biology and mortuary practices.

The two activity loci (Ms-1224 and Ms-1251) do not have potential NRHP significance. Ms-1216 (prehistoric component) and Ms-1238 are too disturbed by modern activity to be eligible for nomination to the NRHP. Isolated finds do not exhibit potential NRHP eligibility. It is the opinion of this survey that little additional information would be collected by test excavations or further data recovery at any of these sites (Table 1).

Historic Sites

It is the conclusion of this survey that of the historic sites, Ms-1050; Ms-1229; Ms-1044, Area B; and Ms-1236 lack potential NRHP significance. All sites lack structural integrity. Ms-1044 has lost integrity of location due to levee and road construction. Ms-1050 and Ms-1229 are types of mid-nineteenth to early twentieth century house sites common in the region and therefore do not constitute a unique or significant resource. Ms-1236, an apparent early twentieth century commercial building location, likewise lacks the potential to contribute important historical information.

Historic site Ms-1216 has what appears to be two possible cisterns or wells visible on the government-furnished project maps. This site has potential NRHP significance due to the fact that these features and other associated data may provide an understanding of the sequence of early to mid-nineteenth century material culture and important socioeconomic data. As stated below under Recommendations, archival work should be done before any test excavation to reassess this evaluation of potential NRHP significance.

STATEMENT OF IMPACT

When considering recommendations, it is assumed that all areas surveyed will be thoroughly impacted by future harbor development. At present, specific plans or proposals detailing the nature of harbor development are not available.

RECOMMENDATIONS

Prehistoric Sites

The two groups of sites comprising the fourth-line communities (Ms-1044 and Ms-1219; Ms-1047, Ms-1233, and Ms-1234) require controlled surface collection, subsurface testing, and geomorphological studies to determine the potential for buried occupation horizons. Each group has a levee over a portion of the site area, and any final mitigation should investigate below these levee fills for undisturbed deposits.

The one possible cemetery site (Ms-1237) needs to be viewed under better visibility conditions. Disking or shallow plowing of the surface, followed by a controlled surface collection, should be conducted and further recommendations made at that time.

The household or farmstead sites (Table 1) present a unique problem regarding further testing. They apparently represent the minimal unit in the settlement system, lying near "the threshold of archaeological detection" (Price 1978:226). The contributions such sites can make to an overall understanding of prehistoric settlement have been amply demonstrated (Milner 1983b, 1984; Smith 1978). It does appear that the only practical method for extracting this information involves large-scale plow zone stripping to reveal patterns of structure and feature relationships as has been demonstrated at the Gypsy Joint site (Smith 1978) and at various sites in the FAI-270 project (e.g., the Turner and DeMange sites [Milner 1983b] and the Julien site [Milner 1984]). Using the fraction (74 m²) of the original area of scatter (1,000 m²) which produced features on the Gypsy Joint site (Smith 1978:18, 26-27), it would take over 13 1-m² units out of the 1,000 units just to find one feature. Eighteen features were present on the Gypsy Joint site. To understand anything at all about site organization and content, it would take an enormous sample of such excavation units (see Asch 1975:182-185). Therefore, the strategy adopted by the FAI-270 project (Bareis and Porter 1984:7-8), among others, is suggested for these smaller household or farmstead locations. Controlled surface collections should not involve grid layout, as they can be economically piece-plotted with a transit. Following this, heavy equipment -- preferably a paddle-wheel scraper -- should remove the plow zone from the site areas. McElrath and Fortler (1983:21) provide a convincing argument on monetary grounds alone for this approach. A limited testing approach on these sites will most certainly not be a valid tool for evaluating potential NRHP significance.

Historic Sites

For the potentially significant historic site (Ms-1216), it is recommended that archival work be done to set the site in a more accurate temporal and functional framework. Additional recommendations should then be made prior to any test excavation.

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APPENDIX A
Scope of Work

SCOPE OF WORK

Delivery Order No. 2

DACW43-84-D-0085

St. Louis Harbor Project Pedestrian Survey

1. Statement of Work. The work to be accomplished by the Contractor consists of furnishing all labor, plant, and equipment necessary to conduct an intensive cultural resource survey, on cultural properties discovered thereby, at selected locations, and to furnish a written report thereon, all as set forth in this Scope of Work. The Project Manager and official Government contract for this work will be Mr. Terry Norris, who is the St. Louis District Archaeologist, and who may be contacted at the District Office, Rm 841, 210 N. Tucker Blvd. St. Louis 63101, telephone (314) 263-5317.

2. Location and Description of the Study Area. The project area is situated adjacent to the east bank of the Chain of Rocks Canal, Madison County, Illinois. The survey limits are outlined in red on the Government furnished maps that accompany this Scope of Work. The area to be physically surveyed consists of 725 acres, more or less, of cultivated bottomland fields. Ground visibility within the project area should be good. Inspection of the area during mid December 1984 by an SLD staff archaeologist found that approximately 30% of the survey area was freshly plowed, 30% contained bean stubble, 30% contained winter wheat (1-2 inches high) and the remaining 10% contained corn stubble. Ground visibility in all of these contexts was acceptable. Results of the previous St. Louis District sponsored survey of selected portions of this area conducted by the Illinois State Museum, suggest that site density will be highest on natural levees adjacent to existing or former sloughs. The Contractor should anticipate the identification of approximately 40 sites, primarily of Late Woodland and Mississippian cultural affiliation: A discussion of the types of remains likely to be encountered during this work is contained in the report entitled "A Cultural Resource Survey of the Proposed St. Louis Harbor Site Locations, Madison County Illinois," J. Jacobson, Ph. D, editor. One copy of this report will be provided to the contractor concurrent with the transmittal of this Scope of Work.

3. Government-Furnished Information. The Government will furnish, to the Contractor, the following items: Survey sheets and maps needed to identify the areas to be intensively surveyed; St. Louis District Report Format Guidelines; St. Louis District Title Page Format; Cultural Resource Survey Report entitled "A Cultural Resource Survey of the Proposed St. Louis Harbor Site Locations, Madison County, Illinois."

4. Rights of Entry. The Contractor is responsible for securing rights-of-entry onto all non-federally owned lands included in this study, for the purposes of carrying out the activities called for in this Scope of Work.

5. Work to be Performed by the Contractor. The tasks described in this Scope of Work will be conducted within the proposed boundaries of the St. Louis Harbor Project, Madison County Illinois, which together comprise 725 acres, more or less. The survey tracts are shown on the government-furnished maps and aerial photos and shall be forwarded to the contractor concurrent with transmittal of the Scope of Work.

5.1 Intensive Survey. This shall consist of a 100% pedestrian survey of the tracts referenced above (Paragraph 5). For the purposes of this Scope of Work, a 100% pedestrian survey is defined as one in which surveyor(s) walk parallel transects spaced 5 meters apart. The survey shall be sufficient to determine the number and extent of prehistoric and/or historic cultural properties visible on the surface of each tract. This procedure shall include recordation of each identified property using Illinois State Archaeological Survey forms, and one random surface collection at each identified site.

5.2 Preliminary Report. After completing the survey, the Contractor shall report their results to the District Archaeologist. This report shall be in the form of a brief letter that indicates the number of sites found, their locations and descriptions of any unique or unusual features present.

5.3 Lab Procedures. Artifacts collected during survey shall be cleaned, permanently labeled and catalogued according to standard lab procedures. These collections shall be analyzed in an attempt to determine each site's temporal affiliation and horizontal surface distribution. All artifacts shall be separated into various material categories, then subdivided into smaller, functional and stylistic categories. These distributions shall be quantitatively assessed in a professional, concise manner. For some collections, special studies shall be required, for example:

a. Lithic analysis - the descriptive analysis shall include a discussion of morphological, functional, and stylistic attributes and, where possible, the identification of raw material. Analysis shall focus on determining intrasite and local relationships;

b. Ceramic analysis - the descriptive analysis shall include study of morphological and stylistic attributes, and shall be intended to identify intrasite and local relationships.

5.4 Curation of Material. The final report shall contain a statement indicating the exact location of all materials and records resulting from this contract work. This statement shall include at a minimum, the name and address of the curatorial building, the storage room number, and if possible, the rack, shelf, or cabinet number where this material is stored. Containers in which feature fill and/or artifacts are stored shall be clearly labeled "Property of U.S. Government, St. Louis District, Corps of Engineers." These containers shall be provided by the Government.

5.5 Documentation. The Contractor's duties, responsibilities, and performance, as required under this Scope of Work, shall be documented by

means of conferences, progress reports, a draft report, and a final report, all as set forth below (Paragraphs 6 through 9).

6. Conferences. Conferences shall be held 3 times during the period of this delivery order. The initial conference shall be a post-award meeting at which the Contractor's principal investigator and field supervisor, and the Project Manager (District Archaeologist), shall coordinate plans for the field operation and performance of the Scope of Work. The second conference shall be attended by the same personnel, shall be held during the fieldwork period, and shall address the Contractor's progress and shall permit any necessary discussion regarding revisions in schedule and/or methodology. The third conference shall take place during the period of report preparation. Its topic shall be the same as the previous two.

7. Monthly Progress Reports. The Contractor shall be required to submit monthly progress reports containing accurate accounts showing the percentage of funds expended, and the percentage of completion of all the tasks identified in Section 5. The progress reports shall be submitted not later than the fifth working day of each month, and shall report progress of the preceding calendar month.

8. Draft Report. The Contractor shall submit a draft report which shall be an accurate representation of the final report. The draft (and therefore the final report) shall report the results of intensive survey, and laboratory analysis. The draft (and the final) report shall include photographs and/or graphics which shall accurately show the locations of all areas surveyed, and the locations of any cultural properties discovered. The draft report shall be typed and double spaced. All pages shall be numbered. Photographs, plates, drawings, and other graphics shall appear in the same quality, size, format, and location in the draft report as they shall in the final report.

9. Final Report. The final report shall incorporate review comments made on the draft report and submitted to the Contractor by the Project Manager. The final report shall be compiled and reproduced to the following specifications:

a. Completed site forms including official state site no's shall be submitted for each site identified during the survey. U.T.M. coordinates and legal locations of each site shall be reported on the site forms, but not elsewhere in the report. The completed site forms shall be included as an appendix to the original copy of the final report, but shall not be included in the reproduced copies. The appendix shall also include U.S.G.S. topographic maps (1:24,000 scale) and government-furnished project maps (see Paragraph 3), all of which shall show the exact location and extent of each identified cultural property as well as all areas surveyed. These maps shall not appear elsewhere in the report.

b. An abstract suitable for publication in an abstract journal shall be prepared, and shall be included at the front of each copy of the final report. The abstract shall consist of a brief (not to exceed one typewritten, single-spaced page) summary useful for informing the technically oriented

professional public of what the author considers to be the results and contributions of the investigation.

c. The final report shall be typed and single-spaced. The original manuscript and 30 copies of the report are required.

d. The title page shall be organized in a manner consistent with the St. Louis District Title Page Format (see Paragraph 3).

e. While the St. Louis District is reviewing the Contractor's draft report, the St. Louis District will prepare report covers for the final report and will forward these to the Contractor with draft comments. The Contractor shall be responsible for binding the final report in these covers, using Plastic Spiral Binding.

f. High quality photographs shall be provided which show details of field conditions, artifacts (especially diagnostic or functionally significant artifacts), or other evidence of past cultural activity. For the purposes of reproduction, these shall be black and white prints of similar quality to the black and white photographic originals.

g. A photographic log of annotated 35mm slides, showing each phase of lab and fieldwork in progress, shall be included with Final Report original.

h. A full set of reproducible drawings and maps (but note the exception stipulated in Paragraph 9a) shall be included with the final report original and reproduced in its copies.

i. All drafting shall be accomplished in ink on stable-base drafting film. Drafting ink shall be compatible with stable-base film.

j. Either mechanical or freehand lettering may be used but shall be in accordance with good drafting practice. In no case shall lettering height be less than 1/8 inch. Freehand lettering will only be acceptable for recording data on base maps.

k. Pencil shading on finished drawings will not be accepted. Shading shall be accomplished with hatching or preprinted "stick-on" screens. Lettering shall not be obscured with hatching or screening. Hatching on the reverse side of the drawing is preferred.

10. Protection of Natural and Historic Features. The Contractor shall be responsible for all damages to persons and property which occur in connection with the work and services under this contract, without recourse against the Government. The Contractor shall provide maximum protection, take every reasonable means, and exercise care to prevent damage to existing historic structures, roads, utilities, and other public or private facilities. Special attention shall be given the historic structures and natural and landscape features of the area, and special care shall be taken to protect these elements in their surroundings. The Contractor shall provide suitable protection for vegetation and facilities adjacent to work areas.

11. Property Damage. The Contractor shall restore to the satisfaction of the Contracting Officer at no additional cost to the Government any damage to any Government or private property.

12. Publicity. The Contractor shall not release any material for publicity prior to the acceptance of the Final Report without the prior written approval of the Contracting Officer. This provision shall not be construed so as to restrict in any way the Contractor's right to publish in scholarly or academic journals. Students and other interested parties are likewise free to use information developed under this contract in theses and dissertations or in publications in scholarly or academic journals.

13. Inspection and Coordination. The Contracting Officer, or his authorized representative, may at all reasonable times inspect or otherwise evaluate the work being performed hereunder and the premises on which it is being performed. If any inspection or evaluation is made by the Government on the premises of the Contractor or any subcontractor, the Contractor shall provide and shall require his subcontractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representatives. All inspections and evaluations shall be performed in such a manner as will not unduly delay the work. Close coordination shall be maintained between the Contractor's principal investigator and the Contracting Officer's representative to insure that the Government's best interest is served.

14. Investigation of Field Conditions. Representatives of the Contractor are urged to visit the areas where work is to be performed and by their own investigation satisfy themselves as to the existing conditions affecting the work to be done. The Contractor shall assume all responsibility for deductions and conclusions as to the difficulties in performing the work under this delivery order.

15. Schedule of Work.

15.1 Post-Award Conference. After a final budget has been agreed upon, the Contractor (including subcontractors) shall meet with the Project Manager and other Government representative(s) as appropriate. This conference will take place within 7 calendar days after the final budget has been agreed upon and the delivery order issued.

15.2 Intensive Survey. This phase of the field work shall commence not later than 7 calendar days after the post-award conference. All field work related to this item shall be completed within 45 calendar days after commencement.

15.3 Preliminary Report. The Contractor shall submit the preliminary letter report (Paragraph 5.2) within 5 calendar days after the completion of the survey.

15.4 Laboratory Analysis and Preparation of Draft Report. The Contractor shall conduct all required laboratory work and submit the draft report within 45 calendar days after the conclusion of fieldwork.

15.5 Draft and Final Report. The Project Manager will review the draft report and submit comments to the Contractor within 35 calendar days. The Contractor shall submit the final report within 157 calendar days after receipt of the Delivery Order.

16. Time Extension. In the event these schedules are exceeded due to causes beyond the control and without the fault or negligence of the Contractor, this delivery order will be modified in writing and the delivery order completion date will be extended one (1) calendar day for each day of delivery.

APPENDIX B
Surface Collection Data

Appendix B

SURFACE COLLECTION DATA

Table B-1 contains information on ground cover, visibility, and type of surface collection taken for all sites and isolated finds. Ground cover types are self-explanatory. Ground visibility is an estimated figure given as a percentage of bare, visible surface area. Types of surface collections are defined above under Methodology.

Table B-1. Ground Cover, Ground Visibility, and Type of Surface Collection

IAS # (Ms-)	Intrasite Division Area	Ground Cover*	Ground Visibility (%)	Prehistoric Surface Collection (% Material Collected)	Historic Surface Collection
1044	A	SBS	40	100	GS**
1044	B	P	100	20	GS
1044	C	WH	50	100	GS
1047	20A	SBS	40	20	
1047	20B	SBS	40	20	
1047	21A	SBS	40	20	
1047	21B	SBS	40	20	
1047	21C	SBS	40	20	
1047	21D	WH	50	20	
1049		SBS	40	20	
1050	A	SBS	40	-	GS
1050	B	P	100	GS	-
1216		SBS/P	40/100	100	GS
1217		P	100	100	
1218		P	100	100	
1219		P	100	20	
1220		SBS/P	40/100	100	
1221		SBS	40	100	
1222		SBS	40	100	
1223		SBS	40	100	
1224		SBS	40	100	
1225		SBS	40	100	
1226		P	100	100	
1227		P/GW	100/10	100/GS	
1228		P	100	20	
1229		SBS	40	-	GS
1230		SBS	40	20	
1231	A	SBS	40	20	
1231	B	SBS	40	20	
1232		SBS	40	100	
1233		SBS	40	20	
1234		SBS	40	20	
1235		SBS	40	100	

*SBS - Soybean Stubble
 WH - Wheat
 P - Plowed
 GW - Grass and Weeds
 HP - Horse Pasture

**GS - Grab Sample

Table B-1. (cont'd)

IAS # (Ms-)	Intrasite Division Area	Ground Cover*	Ground Visibility (%)	Prehistoric Surface Collection (% Material Collected)	Historic Surface Collection
1236		SBS	40	-	GS
1237		HP/GW	15	GS	
1238		SBS	40	100	
1239		WH	50	100	
1240	A	P	100	100	
1240	B	P	100	100	
1240	C	SBS	40	20	
1241		P/WH	100/50	20	
1242		SBS	40	100	
1243		P	90	100	
1244		WH	50	20	
1245		WH	50	20	
1246		WH	50	20	
1247		WH	50	20	
1248		WH	50	20	
1249		WH	50	20	
1250		WH	50	20	
1251		WH	50	100	
1252		WH	50	20	

Isolated Find # (IF-)	Ground Cover	Ground Visibility (%)	Prehistoric Surface Collection - % Material Collected
1	P	100	100
2	SBS	40	100
3	SBS	40	100
4	SBS	40	100
5	SBS	40	100
6	SBS	40	100
7	SBS	40	100
8	SBS	40	100
9	SBS	40	100
10	SBS	40	100
11	WH	50	100
12	VOID---PART OF MS-1250		
13	SBS	40	100
14	SBS	40	100
15	SBS	40	100
16	SBS	40	100
17	WH	50	100
18	SBS	40	100
19	SBS	40	100

Table B-1. (cont'd)

Isolated Find # (IF-)	Ground Cover	Ground Visibility (%)	Prehistoric Surface Collection - % Material Collected
20	SBS	40	100
21	SBS	40	100
22	SBS	40	100
23	SBS	40	100
24	SBS	40	100
25	SBS	40	100
26	SBS	40	100
27	SBS	40	100
28	SBS	40	100
29	SBS	40	100
30	SBS	40	100
31	SBS	40	100
32	SBS	40	100
33	SBS	40	100
34	SBS	40	100
35	WH	50	100
36	WH	50	100
37	WH	50	100
38	WH	50	100
39	WH	50	100
40	WH	50	100
41	WH	50	100
42	WH	50	100
43	WH	50	100
44	WH	50	100
45	WH	50	100
46	WH	50	100
47	WH	50	100
48	WH	50	100

APPENDIX C
Ceramic Analysis

Appendix C

CERAMICS

by George R. Holley

A total of 658 sherds was recovered from surface reconnaissance in the project area. Temporal limits identified for the ceramic sample range from the Late Woodland through Mississippian periods. This material can be aligned with the typology and ceramic sequence established for the Cahokia site, the American Bottom, and adjacent uplands.

Previous Research

Ceramic research has centered on the Cahokia site proper, and the Mississippian period in particular, since the early days of scientific research in the area. With the advent of survey and salvage work in the past two decades, the importance of the Late Woodland period and the transitional period separating Late Woodland and Mississippian has been the subject of analysis (Harn 1971; Munson 1971; Wittry and Vogel 1962). A revised ceramic sequence for the area incorporating this work (Fowler and Hall 1972) and ongoing research at Cahokia has remained a standard formulation. More recently, the intensive and extensive excavation associated with the FAI-270 project (Baeris and Porter 1984) has resulted in a further refinement of phases that have not been previously identified or, in some cases, recognized in earlier research. When combined with research centered at the Cahokia site (Hall 1975; Kelly 1982; Vogel 1975), a new consensus is emerging regarding the ceramic sequence for the American Bottom and Cahokia.

In the immediate area of the survey, research by Porter (1969, 1974) at the Mitchell and FIII sites has been instrumental in examining the role of satellite communities outside the confines of Cahokia during the Mississippian period. Initial survey in the project area (Dwyer et al. 1981) recovered ceramics that date from the Late Woodland through Mississippian periods with the notable presence of transitional Woodland-Mississippian material.

Ceramic Sequence

The Late Woodland period, previously Early Bluff, is divided into three phases: Rosewood (A.D. 300-450), Mund (A.D. 450-600), and Patrick (A.D. 600-800) on the basis of FAI-270 research (Baeris and Porter 1984). The early phases, Rosewood and Mund, have not been identified at

Cahokia or sites in the northern section of the Bottom. Diagnostics of the Late Woodland period are the use of rolled and paddled cordage on the exterior to the lip and a limited range of jar shapes. Rosewood is characterized by a reliance on lip-rim decorations, particularly multiple decorations. Mund is differentiated by a decrease in decorations and a concentration of notches on the superior portion of the lip. The Patrick phase, originally defined for Cahokia, is characterized by interior notching below and onto the lip, slight changes in jar shapes, and the appearance of cordmarked bowls.

The Emergent Mississippian period, previously the Late Bluff period, also is divided into phases that roughly span from A.D. 800-1000. In this case, however, the phases are assigned to a northern and southern locality, of which the northern is of concern for the project area. The diagnostics of the Emergent Mississippian period are the Late Bluff jar with a cordmarked lower body and smoothed upper body, grog/grit temper, and the appearance of traits that overlap with or anticipate the Mississippian period. The Loyd phase is distinguished by the notable absence of many traits that continue into the Mississippian period (Vogel 1975). The succeeding Merrell phase is recognized by modifications on the Late Bluff jar rim and the gradual appearance of limestone and shell-tempered, red-slipped bowls and jars and loop handles on jars. The Edelhardt phase, originally a part of the Fairmount Mississippian phase for Cahokia, is characterized by an increase in the traits that first appear in the Merrell phase.

The Mississippian period is divided into four phases, ranging in time from A.D. 1000-1400 (Bareis and Porter 1984; Fowler and Hall 1972). The first phase, Lohmann-Fairmount, is distinguished by the gradual domination of shell-tempered pottery at the expense of Late Bluff traits. The Stirling phase continues this replacement with a greater variability in jar and bowl shapes and a gradual replacement of red slipping, with a darker slip late in the period. The Moorehead phase, documented at the nearby Mitchell site (Porter 1974), is characterized by the notable domination of shell-tempered pottery and the more visible presence of "Classic" Cahokia types, such as Tippetts Bean Pot, Ramey Incised, and Wells Incised. The final Mississippian period, the Sand Prairie phase, is distinguished by an increase in Cahokia Cordmarked jars, new bowl and pan shapes, and other stylistic differences.

The Oneota period, A.D. 1400-1600, is indicative of a squatting occupation at Cahokia and sparse habitation of the American Bottom. The ceramics are distinctly different from the preceding Mississippian period and resemble pottery from the upper Mississippi valley.

Ceramic Analysis

Methods

The ceramics were analyzed in reference to paste, vessel shape, surface finish, and decoration. A description of the categories used is provided below.

Paste-Temper. Five categories are recognized and include grog/grit, very coarse grit, grog/limestone, limestone, and shell-tempered.

Grog/grit-tempered. Includes pastes with grog, grog and grit, and grit temper. Grog-tempered sherds dominate the collection and are characterized by crushed clay-pottery fragments that range in size from fine to very coarse. Grog-tempered sherds usually are "soapy" to the touch. Grit-tempered specimens usually are rough to the touch and tempered with fine to coarse crushed rock fragments. Most of the grog/grit sherds are completely oxidized, that is, lacking a dark or discolored core. The color of the oxidized paste most commonly is orangish-buff (5YR 6/6, 7/4, 7/6) and less commonly is a pinkish-to-yellow range (7.5YR 7/6, 8/2).

Limestone-tempered. Densely tempered with crushed, rounded-to-subangular limestone fragments. All of the temper is leached. The majority of the sherds have a thin-to-thick, dark or discolored core within an orangish paste (2.5YR 6/8; 5YR 7/6).

Grog/limestone-tempered. Tempered with more grog than limestone and usually an oxidized paste.

Very coarse grit-tempered. Tempered with large crushed rock fragments that range in density from very dense to scattered. Paste color is discolored and not completely oxidized.

Shell-tempered. Dense concentration of crushed shell fragments. All shell fragments are leached. Paste color is grayish, with a thin oxidized layer on the exterior and interior walls that is dullish-orange to pinkish in color (5YR 7/6; 7.5YR 8/4).

Untempered. A few fragments of miniature vessels with an oxidized and untempered paste are present in the collection.

Vessel shape. Most of the rims are fragmentary, with only general information available as to shape. Jars, bowls, and the "booted" stumpware shapes are recognized.

Surface finish. Five categories have been created to classify the diversity recognized in the collection and include plain, plain-cordmarked, cordmarked, plain-weathered, and slipped.

Plain. Smoothed, rarely smoothed over cordmarked surfaces that probably derive from the upper portion of Late Bluff jars or from smoothed plain vessels.

Cordmarked. Impressions of rolled or paddled cords with slight smoothing or obliteration that probably derive from Late Bluff jars, cordmarked jars, bowls, and stumpware vessels.

Plain-weathered. Applies to the limestone and shell-tempered sherds that originally may have been slipped but are too weathered for definitive identification as to surface finish.

Slipped. An orange-to-red slip applied on the interior and exterior of a variety of vessel shapes. Occasional fire clouding may dull the slip to a dusky red color.

Decoration. Decorations are uncommon in the collection and include notching, incising, and miscellaneous treatments or additions to the vessel surface.

Data

These separate units of analysis are combined for descriptive purposes to form units that approximate to some degree the various types established for the American Bottom (Tables C-1, C-3).

Grog/grit-tempered, plain-cordmarked. Possible types: Patrick Cordmarked, Kane Cordmarked, Peters Cordmarked, Loyd Cordmarked, Merrell Cordmarked, Loyd Plain, and undesignated types. A total of 457 sherds and 29 rims. Approximately 75% would fit into the grog-tempered category. Judging by the presence of smoothed rims and neck sherds, it is probable that most of the specimens derive from the Late Bluff jar. Subcategories of surface, rim, and shape are discussed below.

Squared, flat rim. Plain surface. Represented by one jar rim and one indeterminate shape (Figure C-1b). Fragmentary data suggest a straight wall jar shape.

Squared, flat and thickened rim. Plain surface. Only one rim from an indeterminate shape. May fit in the general category of modified rims typical of the later phases of the Emergent Mississippian period.

Modified rim. Plain surface. Represented by five rims that include straight to slightly incurved jar shapes (Figure C-1g, i, j, m). One example has a squared fillet (Figure C-1i) applied to the interior and exterior of the rim. Two small tabs also are present (Figure C-1g, j). These examples fit into the modified Late Bluff jar rims of the Emergent Mississippian period.

Swollen rim. Plain surface. One rim that has a rounded lip and a swollen rim on the exterior (Figure C-1c). Orifice diameter is 25 cm. Similar to Late Bluff jars classified by Vogel (1975: Figure 55d) and Jar Type 3 at the BBB Motor site for the Edelhardt phase (Emerson and Jackson 1984). This variant is assumed to be related to a similar treatment in the shell-tempered, Mississippian type Powell Plain.

Exterior-notched, flat lip, modified rim. Plain surface. Four rims from straight-walled jars (Figure C-2a, d, h, j). Rims are modified by the addition of a circumferential applique to create an everted appearance or are simply thickened. Notches are rounded in appearance and cover the top and front of the lip-rim area. Similar examples for the Merrell and Edelhardt phases are illustrated by Kelly (1982: rim plates 35 and 37) and Vogel (1975: Figure 47i-k) and Jar Types 3 and 4 for the BBB Motor site (Emerson and Jackson 1984).

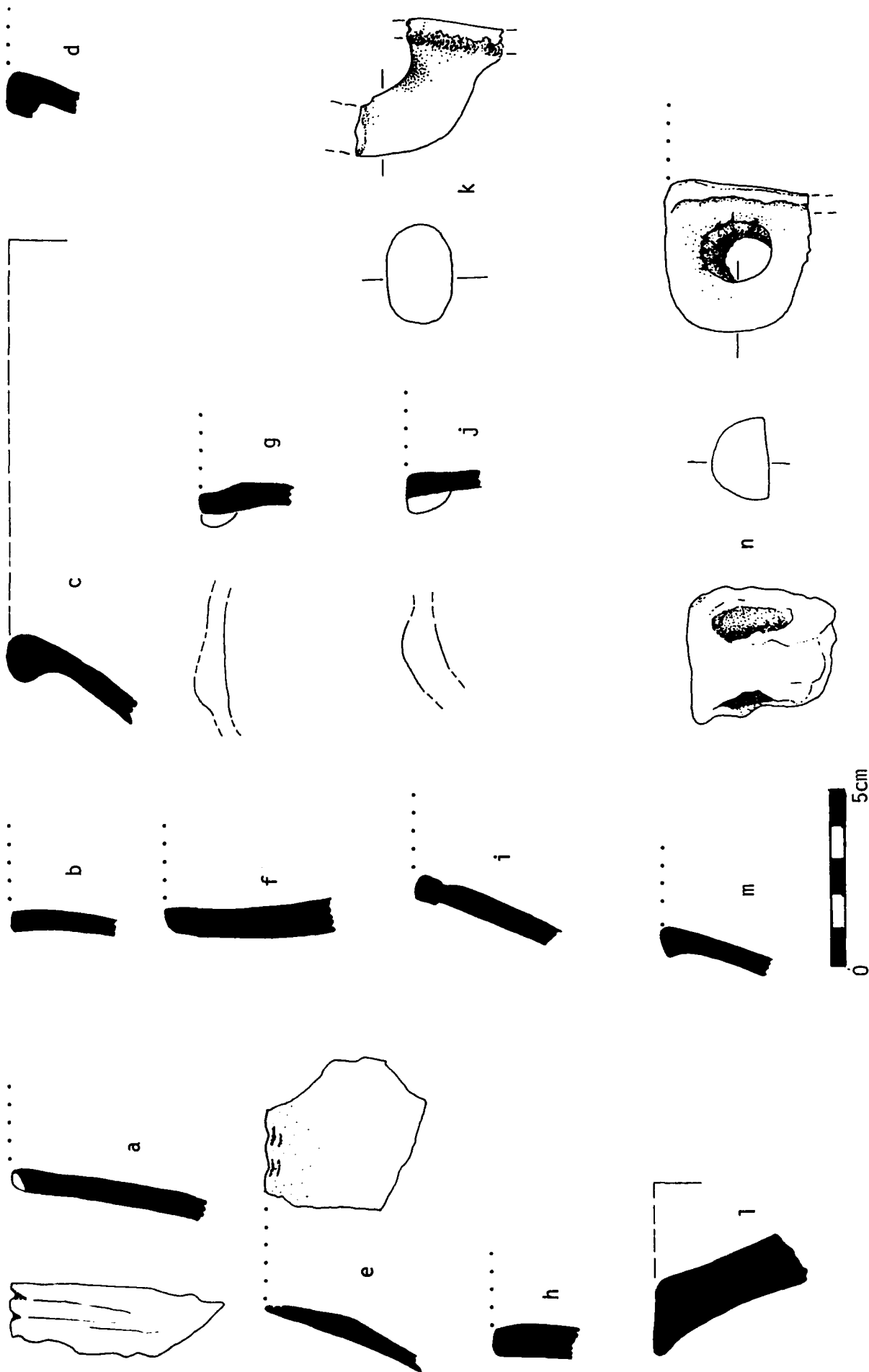


Figure C-1

Figure C-2
Ceramic Illustrations

- a. Ms-1047, Area 21B: grog/grit-tempered, plain, exterior-modified and notched rim, straight-walled jar - M into L
- b. Ms-1047, Area 21B: grog/grit-tempered, plain, exterior-notched, angled jar - M into L
- c. Ms-1047, Area 20B: limestone-tempered, red-slipped, incised seed jar (?) - M into L
- d. Ms-1047, Area 21C: grog/grit-tempered, plain, exterior-modified and notched rim, straight-walled jar - M into L
- e. Ms-1047, Area 21D: grog/grit-tempered, plain, exterior-notched, angled jar - M into L
- f. Ms-1047, Area 21B: limestone-tempered, red-slipped, incurved bowl - M into L
- g. Ms-1047, Area 20A: limestone-tempered, red-slipped, seed jar - M into L
- h. Ms-1047, Area 20B: grog/grit-tempered, plain, exterior-modified and notched rim, straight-walled jar - M into L
- i. Ms-1050: limestone-tempered, red-slipped, possible bowl or jar, problematical - U
- j. Ms-1047, Area 21C: grog/grit-tempered, plain, exterior-modified and notched rim, straight-walled jar - M into L
- k. Ms-1047, Area 21C: shell-tempered, smoothed-over cordmarked exterior, red-slipped interior and exterior-notched rim jar E into L (?)
- l. Ms-1044, Area B: shell-tempered, plain, extruded rim jar - M into L
- m. Ms-1047, Area 20B: shell-tempered, red-slipped, swollen rim jar - E into S (?)
- n. Ms-1047, Area 20B: grog/grit-tempered, plain, exterior-notched, angled-everted rim jar - M into L
- o. Ms-1047, Area 21B: grog/grit-tempered, plain, superior-notched, bifurcated, modified rim - M into L
- p. Ms-1047, Area 21B: limestone-tempered, red-slipped, round bowl with rim tab - M into L
- q. Ms-1047, Area 21C: shell-tempered, Powell Plain jar (?) - S (?)
- r. Ms-1219: shell-tempered, plain, possible bowl - U
- s. Ms-1047, Area 21C: shell-tempered, plain, indeterminate shape - U

Phases: E = Edelhardt
 L = Lohmann
 M = Merrell
 P = Patrick
 R = Rosewood
 U = Undetermined

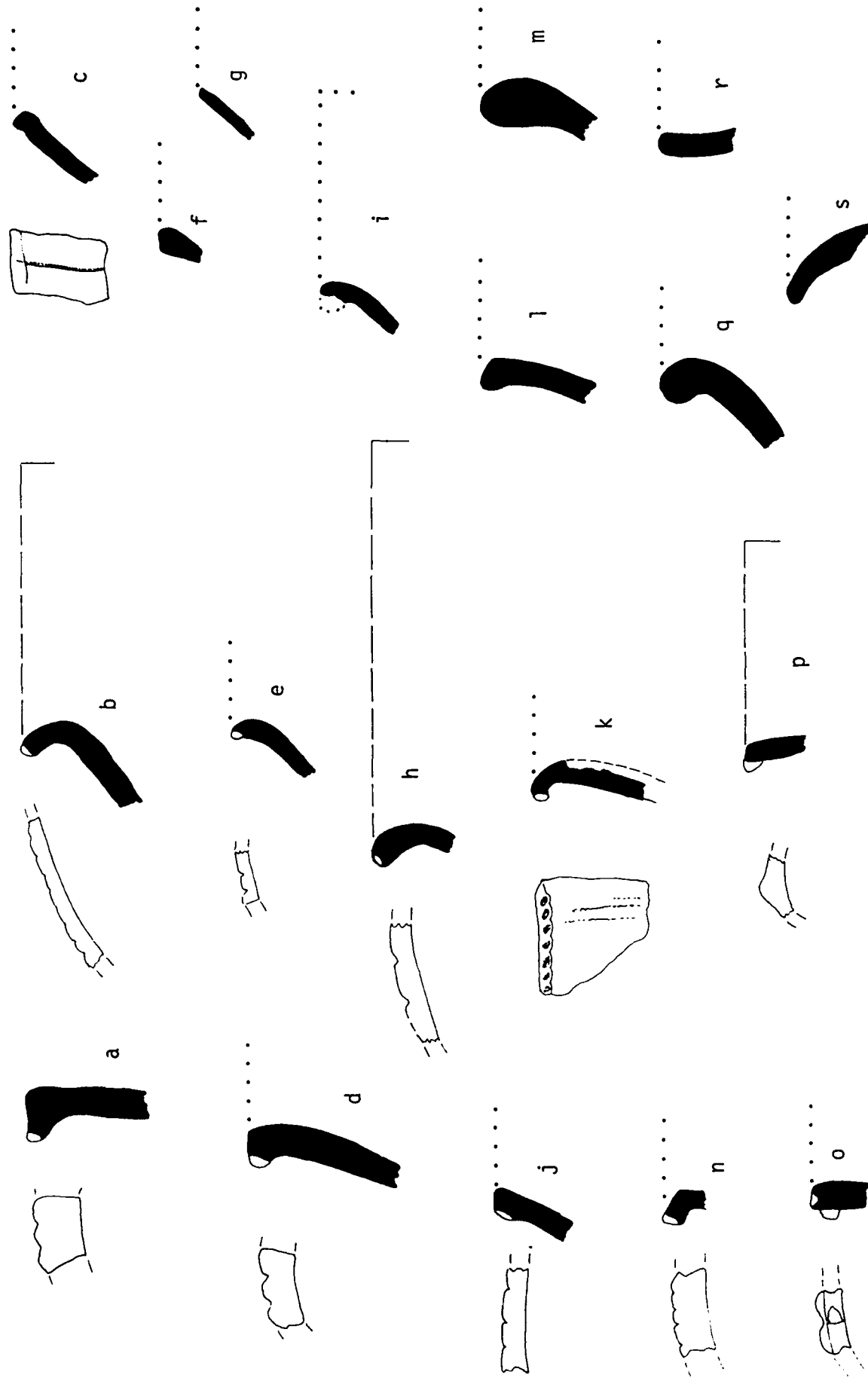


Figure C-2

Exterior-notched, angled-everted rim. Plain surface. Represented by one rim from an interiorally-displaced, everted rim jar (Figure C-2n). Related to examples from the Merrell and Edelhardt phases (Emerson and Jackson 1984:Jar Type 4 examples; Kelly 1982:rim plate 42).

Exterior-notched, angled rim. Plain surface. Represented by four rims from angled jars (Figure C-2b,e). Orifice diameter of one specimen is 16 cm. Similar to examples from the Merrell and Edelhardt phases (Emerson and Jackson 1984:Jar Types 3 and 4; Vogel 1975:Figure 51k,l,o). Notches are vertical and diagonal and not as deeply impressed as those found on the modified rims.

Everted rim. Plain surface. One rim is squared with a flat lip and everted rim (Figure C-1d). Related to the general category of modified rims in the Emergent Mississippian period.

Superior-notched, modified rim. Plain surface. One rim of indeterminate shape (Figure C-2o). A deep, crescent-shaped notch on the superior portion of the lip and a small, bifurcated tab affixed to the exterior rim.

Loop handles. Plain surface. Two specimens (Figure C-1k,n); one is affixed to a jar rim. Crudely made and large in size.

Exteriorally-beveled rim. Plain surface. One rim (Figure C-1f), probably a bowl.

Unmodified-rounded rim. One thick-walled specimen is cordmarked to the lip (Figure C-1h), and four are plain. Possibly jars and bowls present.

Effigy. One possible rim of indeterminate shape has a small zoomorphic effigy attached to the lip. Such effigies are present in the Emergent Mississippian period.

Interior-notched. Cordmarked to the rim. Jar shape with slight recurving near the rim and a thinned rim (Figure C-1e). Notches are placed on the interior lip-wall area and appear to be cord-wrapped dowel impressions, but the cord impressions are not visible; only the column of two crescent-shaped notches is present. Undoubtedly dates to the Patrick phase, where such forms and interior notches are diagnostic.

Unmodified, thinned. Two rims that are cordmarked, thin-walled, and indeterminate in shape. Probably date to either the Mund or Patrick phases of the Late Woodland period.

Stumpware. Type name: untyped. Coarse paste with abundant grog temper. Thick-walled with a small orifice (Figure C-1i). Orifice diameter of one specimen is 10 cm. A total of seven body sherds and four rims. Surfaces primarily are cordmarked but may be roughly smoothed. Rims are flat and unmodified or slightly everted. Everted rims are similar to those from the Merrell tract at Cahokia (Kelly

1982:Plate 46p) dating to the Emergent Mississippian period. Stumpware also can be found in early Mississippian contexts.

Very coarse grit-tempered, plain-cordmarked. Types: probably Patrick Cordmarked and unnamed types. Represented by only six sherds and one rim. The rim (Figure C-1a) is from a gradually recurved jar shape, cordmarked to the lip and notched on the exterior rim with deep, plain dowel impressions. The use of exterior notches on an unmodified rim occurs relatively early in the Late Woodland sequence in the Rosewood phase; however, these are more often cord-wrapped dowel impressions. It is highly probable that this category derives from early in the Late Woodland sequence.

Untempered, miniature vessels. Type: untyped. Represented by two sherds and one rim. Miniature vessels are not temporally diagnostic.

Grog-tempered, red-slipped. Type: Merrell Red Filmed. Only two wall sherds were recovered. One example has an orangish-colored slip on the exterior (10R 5/6) and is unslipped on the interior. The other example overlaps in color with the limestone-tempered specimens. Both sherds probably derive from bowls.

Limestone/grog-tempered, plain-cordmarked. Type: untyped. Represented by only five cordmarked sherds, four plain sherds, and one plain rim. These mixed temper examples are uncommon and may not warrant any separate distinction. The Late Bluff jar appears to be present.

Limestone/grog-tempered, red-slipped. Types: either Merrell Red Filmed or Monks Red. Represented by only one rim fragment that is thin-walled and probably a bowl.

Limestone-tempered, red-slipped. Type: Monks Mound Red. Represented by 20 sherds and 6 rims (Figure C-2c, f, g, l, p). Slipped on both interior and exterior. Confined to the bowl or seed jar form with one problematical example. Slip color is reddish (7.5YR 4/6, 4/8, 5/8). Some sherds are partially blackened, probably due to post-firing conditions. Two rims are from rounded bowls, with the diameter of one being 12 cm. One bowl is decorated with a small tab added to the rim exterior. Two rims may fit the seed jar category, one of which appears to have a vertical incised line running from the lip down the vessel wall. An incurved bowl may be represented by one rim. One sherd may be a seed jar but has a 1 cm wide zone near the rim that appears to resemble a scar from a circumferential addition (a neck?) and is problematical (Figure C-2i). Monks Mound Red is assumed to appear late in the Emergent Mississippian period (Kelly 1982) and decreases in frequency through early Mississippian (Fowler and Hall 1972).

Limestone-tempered, plain-weathered. Type: probably eroded examples of Monks Mound Red. A total of 12 sherds was recovered; most are thin-walled with a paste similar to Monks Mound Red. A few of these sherds may derive from non-slipped bowls or Late Bluff jars.

Limestone-tempered, cordmarked. Type: Pulcher Cordmarked. Only

three sherds present and probably represent basal fragments from Late Bluff jars.

Shell-tempered, cordmarked. Type: Cahokia Cordmarked and unnamed types. Only three body sherds recovered. Although Cahokia Cordmarked is a purely Mississippian type, there are examples of shell-tempered, cordmarked vessels in Emergent Mississippian contexts (Emerson and Jackson 1984; Kelly 1982; Vogel 1975).

Shell-tempered, plain-weathered. Types: St. Clair Plain, Powell Plain, Cahokia Cordmarked, Cahokia Red Filmed, and unnamed types. A total of 64 sherds and 7 rims (Figure C-21,q,r,s). One example is composed of grit and shell in equal proportions. Most of the surfaces are heavily weathered, and a few may have traces of a slipped or smudged surface. Only the rims are informative. One jar rim is rounded and swollen and similar to Powell Plain examples (Vogel 1975:Figure 52); another is extruded and also could fit into the same type (Vogel 1975:Figure 52). One possible bowl form with a slightly thickened rim on the interior is present. The other rims are too small for identification. Most of the material may fit in the Emergent Mississippian and early in the Mississippian period.

Shell-tempered, red-slipped. Types: Cahokia Red Filmed and probably unnamed types. Represented by 21 sherds and 2 rims (Figure C-2k,m). Slip color is within the range of Monks Red described above and may be slightly darker (7.5YR 4/4, 5/6). Portions of the slipped surface may be slightly polished. Body sherds may be slipped on the interior and exterior or only the exterior. Vessel forms appear to be confined to the jar shape. One example with an outturned and exteriorally-notched rim is slipped only on the interior and has a partially smoothed over, cordmarked exterior that may be similar to Vogel's Category Z (1975). The other jar rim is thickened and rounded, with a swollen appearance that is similar to O'Brien's Shouldered Jar Rim 22 (O'Brien 1972) from the Powell tract and is placed in the Stirling-Moorehead phases. This pottery probably dates from late in Emergent Mississippian through the Moorehead phase in the Mississippian period.

Miscellaneous. One sherd, grog tempered, appears to be decorated in a haphazard manner with a cord-wrapped stick on the surface. Another sherd, also grog tempered, may derive from a juice press vessel.

Discussion

The following is an attempt to discuss the temporal implications of the pottery recovered, with particular emphasis on those sites with a sufficient sample size. It is not possible to extract very fine temporal subdivisions due to the fact that the ceramics derive from surface contexts and therefore may represent multiple occupations instead of discrete, single phase occupation. This problem is compounded by the fact that terminal Emergent Mississippian and early Mississippian components are characterized by the presence of grog/grit,

limestone, and shell-tempered pottery, a common feature for the sites in the survey (Table C-2). Certain diagnostics are presumed to fit within a more limited time frame and can be marshalled to suggest temporal alignments.

The Late Woodland period is poorly represented in the collection and identified by only two rims with decorative features that relate to the Rosewood phase (Ms-1044, Area B) and the Patrick phase (Ms-1237). Additional data suggestive of Late Woodland include the presence of recurved body sections of non-Late Bluff jar types (Ms-1047, Area 21B; Ms-1232; Ms-1233; and Ms-1239), and it is possible that some of the grog/grit, cordmarked sherds fit into this period.

In contrast, it appears that the Emergent Mississippian period is present at most sites found in the project area. Nearly all sites possessed plain-surfaced, grog/grit-tempered sherds, and many sites bore evidence of plain, recurved neck fragments and rims. In addition, the presence of modified Late Bluff jar rims and limestone-tempered, red-slipped pottery is further indication of a middle to late Emergent Mississippian occupation.

The Mississippian period is represented by a relatively small proportion of shell-tempered pottery and a few diagnostics. Red-slipped jars and the paucity of darker (smudged) slips in the collection would indicate a placement in the early phases of the period. Diagnostics of the later phases (Moorehead and Sand Prairie) are notable in their absence.

Those sites with an adequate sample size are instructive in the problems of temporal assignment. By using the relative percentage of grog/grit and shell tempers for three sites (Ms-1044, Ms-1219, and Ms-1047), the following seriation from early to late is possible:

	Site/Percentage		
	Ms-1047	Ms-1044	Ms-1219
Temper			
Grog/grit	83.6	54.8	41.4
Limestone	5.6	11.0	10.3
Shell	8.2	30.0	37.9

Note that other tempers and mixed temper categories are not included. This seriation would fit with the pattern typical of the Emergent Mississippian period in the replacement of grog/grit by limestone and shell as tempering agents. However, when Ms-1047 and Ms-1044 are broken down into spatial components that probably represent discrete domestic units (Table C-2), it would appear that both Emergent Mississippian and Mississippian occupations are present.

A provisional temporal alignment for all of the sites and isolated finds is provided in Table C-3. The data are arranged according to

phase and period occupation on the basis of the presumed lifespan for specified diagnostics. Two procedures are employed for temporal alignment. The first concerns modal-typological units and is phase specific; the second involves the designation of ceramic periods and is based on period specific trends. The modal-typological units are listed below according to the possible phases in which they may be found; these designations do not take into account the waxing and waning of the units through time.

- Cordmarked jar with interior notches - Rosewood and Patrick
- Cordmarked neck jar with exterior notches - Rosewood
- Stumpware - Loyd Into Stirling
- Late Bluff Jar - Loyd Into Lohmann
- Monks Mound Red - Merrell Into Lohmann
- Merrell Red - Merrell Into Lohmann
- Cahokia Red - Edelhardt Into Stirling
- Shell-tempered, extruded rim jar - Lohmann Into Stirling
- Shell-tempered, rolled rim jar - Lohmann Into Moorehead
- Cahokia Cordmarked - Moorehead Into Sand Prairie

These units were totaled on the basis of their presence according to each phase and combined on the basis of an arbitrary ranked scale (see Table C-3). It is assumed that the greater co-occurrence of diagnostics for a specific phase, the higher the probability of site occupancy during the specific phase or phases.

In the absence of these diagnostics, period specific criteria were used to identify the possible span of occupation. These criteria include:

- Late Woodland - Cordmarked sherds and necks, very coarse grit temper
- Emergent Mississippian - Plain and cordmarked sherds
- Mississippian - Shell-tempered sherds

Given that these criteria are not exclusive, e.g., shell tempering can be found in both Emergent Mississippian and Mississippian contexts, the period designations are only approximations.

The relative information provided in Table C-3 indicates that most sites probably were occupied within the span of middle-to-late Emergent Mississippian and early Mississippian. The Late Woodland period and the middle-to-late Mississippian period were not substantially represented in the collections.

Table C-1. Ceramic Totals

Paste Category	Cordmarked		Plain		Red		Other	Weathered	Total
	Body	Rim	Body	Rim	Body	Rim			
Grog/grit	282	3	152	26	2		3	18	486
Limestone	3		12		20	6		1	42
Limestone/Grog	5		4	1		1		1	12
Shell	3		64	7	21	2			97
Stumpware	7	2		2					11
Very Coarse Grit	4	1		1				1	7
Miniature			2	1					3
Total	304	6	234	38	43	9	3	21	658

Table C-2. Ceramic Data

Site	Total Sherds Count	Temper Category	Surface										Wt. Weathered (g)
			Cordmarked	Plain	Red-Slipped	Stumpware	Other	Rim	Body	Rim	Body	Other	
Ms-1044 Area A	8	Grog/Grit Shell	4	1 ^a	1	1							111 3
^a exterior-beveled rim bowl													
Ms-1044 Area B	63	Grog/Grit Limestone Shell *VO-Grit Miniature	18 1	9 3 14	2 ^a 4 1 ^c	1 4 5	1 ^b						134 20 85 11 3
^a Squared, flat modified rim, exterior notch; angled rim exterior notch ^b Possible juice press fragment? ^c Extruded rim jar (Powell Plain?) ^d Gradual recurved jar with exterior plain notches													
Ms-1044 Area C	2	Grog/Grit Shell		1 1									15 2
Ms-1217	4	Grog/Grit Shell	1	1	1 ^a	1							12 7
^a Indeterminate form													
Ms-1218	6	Grog/Grit Limestone Shell	3			2							4 3 2

*VO-Very Coarse

Table C-2. (cont'd)

Site	Total Sherds Count	Temper Category	Surface										Wt. Weathered (g)
			Cordmarked		Plain		Red-Slipped		Stumpware		Other		
			Body	Rim	Body	Rim	Body	Rim	Body	Rim			
Ms-1219	29	Grog/Grit	2		7	1 ^a	1				1 ^b	65	
		Limest/Grog	1		1							9	
		Limestone			1			2				9	
		Shell			7	2 ^c	2					38	
aPossible bowl													
bCord-Impressed decorated													
cBowl; indeterminate jar													
Ms-1220	5	Grog/Grit	5									32	
Ms-1221	2	Grog/Grit		1								15	
		Shell		1								2	
Ms-1222	4	Shell		3			1					11	
Ms-1223	2	Grog/Grit	2									11	
Ms-1225	3	Grog/Grit	2	1								7	
Ms-1227	7	Grog/Grit	5	2								22	
Ms-1228	16	Grog/Grit	3	1		1 ^a						23	
		Shell	1	9		1 ^b						34	
aPossible bowl													
bIndeterminate shape													
Ms-1050	2	VC Grit		1							1 ^a	3	
Area B		Limestone										3	
aPossible bowl													

Table C-2. (cont'd)

Site	Total Sherds Count	Temper Category	Surface-----										Wt. Weathered (g)
			Cordmarked	Plain	Red-Slipped	Stumpware	Other	Rim	Body	Rim	Body	Other	
Ms-1049	2	Grog/Grit	2										6
Ms-1231 Area A	2	Grog/Grit Shell	1 1										3 4
Ms-1231 Area B	1	VC Grit	1										2
Ms-1047 Area 20A	26	Grog/Grit Limestone	13 1	6	2	1 ^b	1	1 ^a					162 13
a Loop handle b Seed jar													
Ms-1047 Area 20B	90	Grog/Grit Limest./Grog Limestone Shell	39 1 2 9	1 ^a 26 2 9	2 ^b		1						333 15 21 51
a Indeterminate shape b Exterior-thickened and notched jar, exterior notched, angled-everted rim jar c Seed jar, incised d Swollen rim jar													
Ms-1047 Area 21A	83	Grog/Grit Limest./Grog Limestone Shell	50 1 1	14 1 1	1 ^a 1 ^b		2			1 ^c 1 ^d	1 2	5	348 4 8 25

Table C-2. (cont'd)

Site	Total Sherds Count	Temper Category	Surface										Wt. (g)
			Cordmarked		Plain		Red-Slipped		Stumpware		Other	Weathered	
			Body	Rim	Body	Rim	Body	Rim	Body	Rim			
Ms-1047 Area 21A	83	Miniature VC-Grit	1										2 3
^a Swollen rim jar ^b Exterior modified rim, indeterminate shape ^c Bowl ^d Thickened rim, incurved bowl													
Ms-1047 Area 21B	88	Grog/Grit Limest./Grog Limestone Shell	32 2 1	28 4 2	8 ^a 3 1	1 2 ^b 1	1	4 373	5 27 23				
^a Squared-modified rim, exterior-notched jar; exterior-notched, angled jar; jar with tab; weathered, exterior-modified rim; flat-squared rim; superior-notched, bifurcated-modified rim; interior-exterior modified rim jar; loop handle jar ^b Round bowl with rim tab; incurved bowl with exterior thickening													
Ms-1047 Area 21C	56	Grog/Grit Shell	30	14 5	4 ^a 2 ^b	1 ^c							263 53
^a Squared, exterior-modified and notched jar; exterior-modified and notched jar; squared and flat rim jar; squared and modified rim ^b Powell Plain rim jar; indeterminate shape ^c Out-turned and exterior-notched rim jar, red slip interior, smoothed-over cordmarked exterior													

Table C-2. (cont'd)

Site	Total Sherds Count	Temper Category	Surface										Wt. Weathered (g)
			Cordmarked	Plain	Red-Slipped	Stumpware	Other	Weathered	Body	Rim	Body	Rim	
Ms-1047 Area 21D	85	Grog/Grit	38	27	4 ^a	3	2	318					2
		Limest./Grog	1					2					4
		Limestone	1					4					31
		Shell	1	4		3							
^a Exterior-notched, angled jar; exterior-modified jar; rim tab; everted rim													
Ms-1232	2	Grog/Grit	2					10					
Ms-1233	12	Grog/Grit	7	3		2		67					3
		Shell											
Ms-1234	4	Grog/Grit	1	2			1	11					7
		Shell											
Ms-1235	3	Grog/Grit	3					4					
Ms-1237	1	Grog/Grit	1 ^a										
^a Interior-notched, gradual recurved jar													
Ms-1239	4	Grog/Grit	1					9					6
		Limestone		1				6					19
		Shell		1		1							
Ms-1240 Area A	6	Grog/Grit	5					19					3
		VC Grit	1										
Ms-1240 Area B	8	Grog/Grit	3	2		1	2	33					

Table C-2. (cont'd)

Site	Total Sherds Count	Temper Category	-----Surface-----										Wt. Weathered (g)
			Cordmarked Body	Plain Body	Red-Slipped Body	Stumpware Rim	Stumpware Body	Stumpware Rim	Other	Weathered			
Ms-1240 Area C	1	Grog/Grit	1									5	
Ms-1241	1	Grog/Grit	1									2	
Ms-1242	1	Shell		1								2	
Ms-1243	3	Grog/Grit Limestone	1 ^a							1	1	4 1	
aIndeterminate shape													
Ms-1245	7	Grog/Grit Limestone Shell	3 1	1					1 ^a			60 2 3	
aZoomorphic effigy lug													
Ms-1246	3	Grog/Grit VC Grit	1 1	1								11 7	
Ms-1247	1	Grog/Grit		1								2	
Ms-1248	3	Grog/Grit Limestone			1 ^a		2					4 3	
aSquared, exterior-modified													
Ms-1249	3	Grog/Grit	1	1	1 ^a							16	
aSquared flat													

Table C-2. (cont'd)

Site	Total Sherds Count	Temper Category	-----Surface-----												Wt. Weathered (g)
			Cordmarked		Plain		Red-Slipped		Stumpware		Other				
			Body	Rim	Body	Rim	Body	Rim	Body	Rim	Body	Rim			
Ms-1250	2	Grog/Grit Limestone			1									5	
					1									2	
IF-7	1	VC Grit	1											6	
IF-9	1	Grog/Gr +			1									5	
IF-26	1	Grog/Grit	1											11	
IF-30	1	Grog/Grit			1									2	
IF-32	1	Grog/Grit			1									3	
IF-33	1	Grog/Grit	1											2	
IF-38	1	Grog/Grit			1									3	

Table C-3. Ceramic Periodization

Site/Area	Late Woodland			Emergent Mississippian			Mississippian			
	R	Mu	P	L	Me	E	L-F	S	Mo	SP
Ms-1044/A				/	+	*	*	/		
Ms-1044/B	/			/	+	*	*	+		
Ms-1044/C				-	-	-	-	-	-	-
Ms-1217						/	/	/		
Ms-1218					/	/	/			
Ms-1219				/	+	+	+	/		
Ms-1220	-	-	-	-	-	-	-	-	-	-
Ms-1221				-	-	-	-	-	-	-
Ms-1222										
Ms-1223	-	-	-	-	-	-				
Ms-1225	-	-	-	-	-	-				
Ms-1227	-	-	-	-	-	-				
Ms-1228					/	/	/	/	/	/
Ms-1050/B				/	/	/	/	/		
Ms-1049	-	-	-	-	-	-	-	-	-	-
Ms-1231				-	-	-	-	-	-	-
Ms-1047/20A				/	+	+	+	/		
Ms-1047/20B				/	+	*	*	/		
Ms-1047/21A				/	+	*	*	/		
Ms-1047/21B				/	+	*	*	+	/	/
Ms-1047/21C				/	/	+	+	/		
Ms-1047/21D				/	+	*	*	/		/
Ms-1232	-	-	-	-	-	-				
Ms-1233						/	/	/		
Ms-1234	-	-	-	-	-	-	-	-	-	-
Ms-1235	-	-	-	-	-	-				
Ms-1237	/		/							
Ms-1239						/	/	/		
Ms-1240/A	-	-	-	-	-	-				
Ms-1240/B				/	/	/	/	/		
Ms-1240/C	-	-	-	-	-	-				
Ms-1241	-	-	-	-	-	-				
Ms-1242							-	-	-	-
Ms-1243	-	-	-	-	-	-	-	-	-	-
Ms-1245				/	/	/	/	/		
Ms-1246	-	-	-	-	-	-				
Ms-1247				-	-	-				
Ms-1248					/	/	/			
Ms-1249	-	-	-	-	-	-				
Ms-1250				/	/	/	/			
IF-7	-	-	-							
IF-9				-	-	-				
IF-26	-	-	-	-	-	-				
IF-30				-	-	-				
IF-32				-	-	-				

Table C-3. Ceramic Periodization (cont'd)

Site/Area	Late Woodland			Emergent Mississippian			Mississippian			
	R	Mu	P	L	Me	E	L-F	S	Mo	SP
IF-33	-	-	-	-	-	-				
IF-38				-	-	-				

Key:

R=Rosewood

Mu=Mund

P=Patrick

L=Loyd

Me=Merrell

E=Edelhardt

L-F=Lohmann-Fairmount

S=Stirling

Mo=Moorehead

SP=Sand Prairie

- = Period Criteria

/ = 1 or 2 Phase Diagnostic Criteria

+ = 3 or 4 Phase Diagnostic Criteria

* = 5 or 6 Phase Diagnostic Criteria

APPENDIX D
Lithic Analysis

Appendix D
LITHIC ANALYSIS
by Ron Pulcher

The analytical categories here follow those used by Dwyer et al. (1981:33-35) in their earlier survey in the St. Louis Harbor area. Any additions, changes, or other aspects departing from Dwyer et al. (1981) are in brackets below.

Debitage

"Debitage is the residual lithic material from the repair, production, rejuvenation, or utilization of chipped stone tools. This category includes all intentional and unintentional flakes or other chipped stone waste material that exhibit no evidence of subsequent modification or utilization. This category has been divided into [primary flakes], secondary flakes, tertiary flakes, shatter, and hoe flakes [hoe flakes and hoe fragments are all included here; no complete hoes were found].

[Primary Flake]

[A primary flake is one with the entire dorsal surface covered by cortex or patina.]

Secondary Flake

A secondary flake is relatively thick though not necessarily large [and] exhibits little if any cortex or patina; negative flake scars form a dorsal ridge. Some flakes lack evidence of platform preparation and have diffuse bulbs of applied force. Secondary flakes probably represent an intermediate stage of flaked stone tool production. Specimens exhibiting use-wear or retouch are placed in the unprepared tools and worked tools categories, respectively.

Tertiary Flake

A tertiary flake is relatively small and thin in comparison with a secondary flake. These waste products often exhibit evidence of platform preparation, minute cones, numerous negative flake scars on their dorsal surfaces, and reduced bulbs of force on their ventral sides. This category also includes flakes produced during bifacial thinning, retouching, or reshaping procedures.

Shatter

Shatter includes unidentifiable portions of secondary or tertiary flakes (often the medial fragments) and the subcategories of errillure flakes (cf. Crabtree 1972:60 [62]), chunks or spalls (cf. East and Alexandrowicz 1980:23), potlids (cf. Crabtree 1972:84-85), and minute flakes resulting from the breakage or attrition of modified or unmodified siliceous lithic materials.

Hoe Flakes [and Hoe Fragments]

A hoe flake is a chip from a utilized stone hoe blade. This is distinguished from other flakes in a sheen or high gloss on the dorsal surface. [Here any hoe fragment as evidenced by sheen or gloss is included].

Core

A core is a mass of rock [here, chert] exhibiting at least one negative flake scar, i.e., a tested core, and including conical or polyhedral forms with numerous negative scars.

Unprepared Tools

Specimens in this category exhibit evidence of utilization but lack intentional post-detachment modification (flaked stone) or pre-use shaping This category includes flaked stone, [sandstone (abraders), and igneous/metamorphic cobble stone (hammerstones, manos, pitted stones, etc.) as well as chert hammers, all of which receive modification only by use].

Utilized Flakes

Utilized flakes include any flake without post-detachment modification (retouch which exhibits evidence of utilization by the presence of edge wear -- e.g. attrition scars, sheen -- along one or more margins. Flakes that exhibit intentional retouch are placed in the appropriate worked tool subcategory.

[Abrader]

[Abraders in this analysis are limited to sandstone. Abraders are characterized by grooves produced by abrasion with another object. Only deeply grooved examples with complete patina throughout the groove are included here to assure no plow-scarred examples are tabulated.]

[Chert Hammer]

[A chert hammer includes any chert piece exhibiting characteristic crushing and rounding of a portion of the surface produced by repeated blows against another hard object.]

[Igneous/Metamorphic Cobble]

[Unprepared igneous/metamorphic cobble tools include all those tools (e.g., hammerstones, manos, pitted stones, etc.) deriving modifications from use.]

Worked Stone Tools

[Worked stone tools are] lithic implements which have been intentionally modified with any flaked [or ground] stone manufacturing technique. They are subdivided here into projectile points, unifaces, bifaces, graters, [and ground stone].

Projectile Point

A projectile point is any relatively symmetrical biface usually no wider than its length, with one pointed end and an opposite end or base with a widely variable but often culturally distinctive shape. This is a morphological category more than a functional one, since many of these objects may have been used as knives or other nonprojected implements or weapons. Whole pieces, as well as identifiable fragments, are included [Six morphological groupings served to order the projectile points found in the present survey.]

Miscellaneous Uniface

A miscellaneous uniface is a flaked stone implement exhibiting flake scars on either surface, but they must be on different edges. Artifacts traditionally classified as scrapers are included in this category.

Miscellaneous Bifaces

A miscellaneous biface is a stone implement [or fragment thereof] which exhibits flake scars on both surfaces of any edge. This group includes preforms or blanks which constitute a stage in the production of bifacially flaked tools or weapons, including projectile points, choppers, knives, etc. [Fragments of projectile points too undiagnostic to assign to one of the six morphological categories were included here.]

Graver

A graver is an incising tool (Cook 1976:33) with one or more relatively broad and flat pointed projections on a flake or flake implement (Nero 1957:300). Gravers [here are] unifacially worked, resulting in a small, sharp point" (Dwyer et al. 1981:33-35).

[Igneous/Metamorphic Fragments]

[This category subsumes the Dwyer et al. (1981:35) category of fire-cracked rock and includes any igneous/metamorphic fragment lacking use wear or intentional modification.]

[Water-worn Pebbles]

[This category includes generally small items showing polish and rounding from water transport. A significant number appear to be "unique rocks" having unusual color combinations or inclusions.]

[Limestone and Sandstone]

[These two categories include unmodified stone unless otherwise noted. The survey area, being close to the Granite City steel mills, is littered with limestone slag used as road gravel. This slag limestone was not collected and is not included here. This slag also is everywhere along the East St. Louis Sanitary District right-of-way, probably having been used as temporary road gravel during pipeline construction.]

The above definitions remain as close as possible to those used in the 1981 survey. Table D-1 presents the analysis for the sites recorded by the present survey. A total of 993 lithic items, including 25 igneous/metamorphic, 24 limestone, 8 sandstone, 16 water-worn pebbles, and 920 chert pieces was recovered. Isolated finds accounted for another 51 lithic items and are described in Table D-2 along with their sketch map reference and elevation.

Chert resources were identified for the two fourth-line communities, Ms-1044 and Ms-1047 (Table D-3). Burlington, Mill Creek (primarily hoe chips and hoe fragments), and Grover Gravels were identified. Burlington is the predominant chert present at 47% of the Ms-1044 sample and 79% of the Ms-1047 sample. Very minor amounts of Kinkaid and Dongola chert were found during the survey (see Plate 2a and b). Otherwise, Burlington chert and unknown chert, often with waterworn cortex, were consistently predominant in the collection.

Mr. Ralph Beckman and Mr. Richard Bauer allowed the survey team to photograph materials they had found in the survey area and vicinity. Only one object, a hematite ball of approximately 800-1,000 g found by Mr. Beckman, could be definitely provenienced. This ball came from the north end of Ms-1044, Area A (Map G-1). Mr. Bauer's collection came from both the general area of the present survey and from fields just east of the survey area, east of Illinois Route 3, all from land farmed by Mr. Bauer and his father. The earliest material appears to be Late Archaic Labras Lake/Prairie Lake phase points (cf. McElrath et al. 1984: 48, 55). One Synders-like point and numerous contracting-stem points also were present. Photographs of these materials are on file at the St. Louis District Corps of Engineers office, and copies accompany the curated material at the Illinois State Museum.

Table D-1. Artifact Inventory and Analysis: Prehistoric Lithics (Count)

-----Illinois Archaeological Survey Site Number-----									
Ms-1044		Ms-1044	Ms-1044	Area C	Ms-1216	Ms-1217	Ms-1218	Ms-1219	Ms-1220 Ms-1221
Area A		Area B							
Debitage									
Primary Flakes	1	3	2					1	
Secondary Flakes		9	2				4	2	
Tertiary Flakes	1	21	1				3	6	3
Shatter	2	2						7	
Hoe Flakes, Frags.	2							1	1
Cores	12	52	4	1			7	22	2
Unprepared Tools									
Utilized Flakes									
Abrader									
Chert/Hammer									
I/M Cobble		1							
Worked Stone Tools									
Projectile Points									
Tri.									
Tri.-SN									
Sm.-CN									
Cont. Stem									
Exp. Stem									
St. Stem									
Unifaces, Misc.		4	1					1	
Blifaces, Misc.		4	2					2	1
Graver		3							
Groundstone								1	
Ig/Met. Fragments	1	4						1	2
Water-worn Pebbles		4					2		
Limestone	3	1	1				1		3
Sandstone		1							
Total	22	109	13	1	4	17	43	6	8

Table D-1. (cont'd.)

Illinois Archaeological Survey Site Number										
	Ms-1222	Ms-1223	Ms-1224	Ms-1225	Ms-1226	Ms-1227	Ms-1228	Ms-1050	Ms-1049	
Debitage										
Primary Flakes	2						3	1		
Secondary Flakes	4		2		1		12		5	
Tertiary Flakes				5		5	20		14	
Shatter							1	1		
Hoe Flakes, Frags.						1	3			
Cores										
Unprepared Tools										
Utilized Flakes	8		3	1	3	2	44			8
Abrader										
Chert/Hammer										
1/M Cobble										
Worked Stone Tools										
Projectile Points										
Tri.							1			
Tri.-SN							1			
Sm.-CN										
Cont. Stem										
Exp. Stem										
St. Stem										
Unifaces, Misc.		1				1	1		1	
Blfices, Misc.	1			1	1		3	1	1	
Graver							1			
Groundstone										
Ig/Met. Fragments	1									
Water-worn Pebbles										
Limestone	2	1		2			3			
Sandstone	2									
Total	20	2	5	9	5	9	93	3		29

Table D-1. (cont'd.)

----- Illinois Archaeological Survey Site Number -----										
		Ms-1231	Ms-1231	Ms-1047	Ms-1047	Ms-1047	Ms-1047	Ms-1047	Ms-1047	Ms-1047
		Area A	Area B	Area 20A	Area 20B	Area 21A	Area 21B	Area 21C	Area 21D	
Debitage										
Primary Flakes		1	1	2		1	2			
Secondary Flakes			3	5		5	4	1		2
Tertiary Flakes		2				3	5	3		5
Shatter		2	1	9		11	3	7		9
Hoe Flakes, Frags.				2		3	1			
Cores		1				1	2	2		2
Unprepared Tools										
Utilized Flakes		4	3	13		24	28	17		14
Abrader							1			
Chert/Hammer			4							
I/M Cobble				1			1	1		1
Worked Stone Tools										
Projectile Points										
Tri.										
Tri.-SN										1
Sm.-CN										
Cont. Stem		1								
Exp. Stem										
St. Stem										
Unifaces, Misc.								2		2
Bifaces, Misc.		3		4		4		1		
Graver										
Groundstone										
Ig/Met. Fragments							1			
Water-worn Pebbles				1			1			
Limestone						1**		1		
Sandstone								2		
Total		10	9	37	124	53	49	37		36

Table D-1. (cont'd.)

	Ms-1232	Ms-1233	Ms-1234	Ms-1235	Ms-1237	Ms-1238	Ms-1239	Ms-1240 Area A	Ms-1240 Area B
Debitage									
Primary Flakes		2	4		1			1	
Secondary Flakes	2	1	1				4	4	2
Tertiary Flakes		5	1	1			8	4	2
Shatter		1							
Hoe Flakes, Frags.			5				1		
Cores									
Unprepared Tools									
Utilized Flakes	3	11	6	1		4	11	8	7
Abrader									
Chert/Hammer									
l/M Cobble								1	
Worked Stone Tools									
Projectile Points									
Tri.							1		
Tri.-SN									
Sm.-CN									
Cont. Stem				1					
Exp. Stem			1						
St. Stem								1	
Unifaces, Misc.									
Bifaces, Misc.			2			1		1	1
Graver									
Groundstone									1***
Ig/Met. Fragments		1							
Water-worn Pebbles							1	1	
Limestone									2
Sandstone									
Totals	5	21	20	3	1	5	26	21	15

Table D-1. (cont'd.)

----- Illinois Archaeological Survey Site Number -----									
Ms-1240									
Area C Ms-1241 Ms-1242 Ms-1243 Ms-1244 Ms-1245 Ms-1246 Ms-1247 Ms-1248									
Debitage									
Primary Flakes						1			1
Secondary Flakes									
Tertiary Flakes						1			
Shatter	2	5	6	3	2				1
Hoe Flakes, Frags.			1						
Cores					1				1
Unprepared Tools									
Utilized Flakes	5		9	2	6	13	4	2	2
Abrader									
Chert/Hammer									
I/M Cobble									1
Worked Stone Tools									
Projectile Points									
Tri.									
Tri.-SN									
Sm.-CN								1	
Cont. Stem									
Exp. Stem									
St. Stem									
Unifaces, Misc.	1								
Bifaces, Misc.					1				
Graver									
Groundstone									
Ig/Met. Fragments		1							
Water-worn Pebbles		1							
Limestone									
Sandstone			2				1		
Totals	8	8	16	9	7	17	7	3	6

Table D-1. (cont'd.)

Illinois Archaeological Survey Site Number					TOTAL
	Ms-1249	Ms-1250	Ms-1251	Ms-1252	
Debitage					
Primary Flakes				1	4
Secondary Flakes				1	47
Tertiary Flakes		3			100
Shatter		1	1		197
Hoe Flakes, Frags.		1			18
Cores				1	30
Unprepared Tools					
Utilized Flakes	2	9	3	4	444
Abrader					1
Chert/Hammer					3
l/M Cobble		1		1	9
Worked Stone Tools					
Projectile Points					
Tri.					
Tri.-SN				1	4
Sm.-CN					2
Cont. Stem					1
Exp. Stem					2
St. Stem					1
Unifaces, Misc.					1
Bifaces, Misc.				1	21
Graver					41
Groundstone					4
lg/Met. Fragments					2
Water-worn Pebbles					14
Limestone		1	1	1	16
Sandstone					24
Totals	2	16	5	11	993

*Mill Creek hoe fragment ultimately utilized as a core

**Weathered piece of limestone which originally may have been a digging implement

***celt preform

Tri:small triangular points

Tri-SN:small triangular side-notched

Sm-CN:small corner-notched points

Cont. Stem:contracting stemmed points

Exp. Stem:expanding stemmed points

St. Stem:straight stemmed points

Table D-2. Isolated Finds

IF #	Sketch Map #	Elevation (m)	Description
1	G-4	129.5	contracting-stem point (Plate 2)
2	G-4	129.2	1 - fractured, water-worn pebble 1 - shatter
3	G-1	129.2	misc. biface, with marginal edge crushing
4	G-4	129.2	misc. biface, distal fragment
5	G-1	129.2	1 - cobble hammer 1 - shatter
6	G-1	129.2	utilized flake
7	G-1	129.8	sherd, see Tables C-2 and C-3
8	G-1	129.2	core, Grover(?) gravel
9	G-1	129.5	sherd, see Tables C-2 and C-3
10	G-4	129.5	1 - core, Burlington chert 1 - misc. uniface
11	G-11	128.6	utilized flake
12			Void, item in Ms-1250 area
13	G-4	129.8	core
14	G-4	128.9	tertiary flake
15	G-4	128.9	shatter
16	G-4	129.2	tertiary flake
17	G-13	126.8	triangular point (Plate 2)
18	G-3	128.6	1 - utilized flake 1 - contracting-stem point fragment
19	G-6	128.6	straight-stem point (Plate 2)
20	G-6	128.9	secondary flake
21	G-6	128.6	1 - core 1 - core
22	G-6	128.9	1 - shatter 1 - tertiary flake
23	G-6	128.6	1 - cobble hammer 1 - tertiary flake
24	G-6	128.6	utilized flake
25	G-6	128.9	utilized flake
26	G-6	128.9	sherd, see Tables C-2 and C-3
27	G-6	128.9	combination chert hammer/tested core
28	G-6	128.3	secondary flake
29	G-6	128.9	1 - secondary flake 1 - tertiary flake
30	G-6	128.9	sherd, see Tables C-2 and C-3
31	G-6	128.9	1 - igneous/metamorphic fragment 1 - secondary flake
32	G-6	128.3	sherd, see Tables C-2 and C-3
33	G-6	129.2	sherd, see Tables C-2 and C-3
34	G-2	128.3	abraded hematite spheroid, 785 g
35	G-3	129.5	straight-stem point fragment
36	G-11	128.3	core
37	G-12	128.9	utilized flake

Table D-2. (cont'd)

IF #	Sketch Map #	Elevation (m)	Description
38	G-11	128.3	1 - sherd, see Tables C-2 and C-3 1 - misc. uniface
39	G-11	128.3	core
40	G-11	128.3	triangular point(?) midsection
41	G-11	128.6	1 - utilized flake 1 - utilized flake
42	G-11	128.6	tertiary flake
43	G-8	126.8	misc. biface fragment
44	G-7	129.2	igneous/metamorphic fragment
45	G-7	128.9	misc. biface fragment
46	G-7	129.2	secondary flake
47	G-7	129.2	shatter
48	G-8	128.9	shatter

Table D-3. Chert Sources by Weight for the Two Fourth-Line Communities, Sites Ms-1044 and Ms-1047

Chert Source*	--Ms-1044 (Areas)--			Grams	Percent
	A	B	C		
B	134	434	128	696	47
MC	128	101		229	16
UNK-R	284	10		294	20
UNK-F	20	25	11	56	4
UNK	170	27		197	13
				1,472	100

-----Ms-1047 (Areas)-----							Grams	Percent
20A	20B	21A	21B	21C	21D			
B	165	1,180	297	299	188	214	2,343	79
MC	16	78	40	7		10	151	5
GG	50						50	2
UNK-R		10	4	52	85		151	5
UNK-F	21	39				34	60	2
UNK	2	47	21	115	12		197	7
							2,952	100

- * B = Burlington
 MC = Mill Creek
 GG = Grover Gravel
 UNK-R = Unknown, waterworn cortex present
 UNK-F = Unknown, fossiliferous chert
 UNK = Unknown, misc.

APPENDIX E

Historic Artifact Analysis

Appendix E

HISTORIC ARTIFACT ANALYSIS

by Jerry J. Moore

Five historic sites were recorded during the March 4-19, 1985, St. Louis Harbor survey project in Madison County, Illinois. They are:

Ms-1044 in Nameoki Township - Area A
Ms-1229 in Venice Township
Ms-1050 in Nameoki Township - Area A
Ms-1216 in Venice and Nameoki Townships
Ms-1236 in Venice Township

Brief descriptions appear above under the Survey Results section of this report.

One recently destroyed site was found but not given a field number. The area had a house occupation removed in 1984. Items noted were brick, concrete, stone, stoneware, field tile, small tin cans, plastic, whiteware, glass, and wood. All artifacts dated from the last 50 years. The site is located on a small rise at an elevation of 429 m in a wheat field behind the Northgate Industrial Park. Photographs were taken. The buildings all appear on U. S. Army, Corps of Engineers aerial photographs, where they are noted as now destroyed (Appendix H, Sheet No. 115).

Some sites were near roadside areas that were used as dumps. The roadsides in the survey area were lined with garbage which had been deposited over many years. During the survey, crew members noted many instances of dumping and subsequent burning of the garbage by local road crews. On one location, the local fire department was called to put out a fire.

All collections from historic sites were grab samples.

Historic Artifact Typology

The following is a detailed glossary of the historic artifacts recovered from the St. Louis Harbor survey. This glossary of terms is similar to the one compiled by the author for the historic analysis in Moore and Burge (1981:69-72).

Historic Euro-American Artifacts

Ceramics:

Stoneware
Yellow Ware
Porcelain
Earthenware
Whiteware
Redware

Glass:

3 piece mold method
Automatic bottle making method
Pressed mold glass
Plastic
Other

Ceramics. Any object made of clay or clay-like materials fired at a minimum temperature of approximately 485°C (900°F) is included in this category.

During final analysis, artifacts in this category were subdivided into stoneware, yellow ware, porcelain, earthenware, and redware.

Stoneware. A thick-bodied ware generally characterized by a hard, dense, and impervious body, often covered with a salt glaze, is defined as stoneware. Stoneware is made of clays containing iron oxides and other fluxes and consequently is cream or brown in color.

Although stoneware has been manufactured in the United States since the seventeenth century, fragments recovered date to no earlier than the mid-nineteenth century. Manufacturers' marks may appear on stoneware as etchings in the wet clay with a cobalt blue glaze, or simply as a cobalt blue design, this practice being used only in the nineteenth century.

Yellow Ware. The same type of clay used in stoneware is used in yellow ware. The difference is that the clay used in the latter is washed to remove sand and foreign matter, leaving a smooth, even-textured buff clay, which is easily pressed into molds. Yellow ware is first fired at 1150°C (2100°F), then glazed and fired a second time at 925°C (1700°F).

Porcelain. A hard, white, translucent, nonporous ware in which the mineral feldspar is used as a flux. Porcelain has been produced in the United States since the eighteenth century.

Earthenware. A porous type of pottery characterized by a white or ivory colored paste and covered with a colored translucent glaze. The clays of earthenware contain flint and feldspar and are fired at temperatures between 1150°C (2100°F) and 1250°C (2280°F).

Whiteware. Whiteware is a refined earthenware which has a white paste and a colorless glaze and which generally lacks the greenish and yellowish tint of creamware.

Whiteware vessels were produced in a variety of shapes, styles, and motifs. Whiteware is perhaps one of the most common ceramic wares found throughout nineteenth century sites in the Midwest (Price 1981:26).

Redware. Redware is common brick clay, also well known from its use in flowerpots. Because it is porous, vessels must be glazed to hold liquids.

Ceramic Decoration. The following is a brief description of two of the most common types of methods of decorating ceramics.

Transfer Printed. Transfer printing is the application of colored designs to a vessel by way of an inked, waxed paper onto which the design has been transferred from a copper plate engraving (Price 1981:36).

Sponge Decorated. Sometimes called spatterware, this method of application is done by means of a cut and inked sponge (Price 1981:38).

Unpainted Molded. This type of decorated ware has no glazing or painted design. The ware is decorated by a raised, molded design around the rim of the vessel.

Glass. Sites in the St. Louis Harbor project produced glassware in some quantity. The following is a brief description of glass producing methods represented in the collections.

Three-piece mold. This method of manufacture appears about 1870. One part of the mold forms the body of the bottle; the neck and shoulder are formed in two parts.

Automatic Bottle Making Method. Bottles produced by this method postdate 1903, when the Owens Automatic Bottle Making Machine was patented. The complete bottle was manufactured by this process, which left a very fine seam at the lip and base of the bottle (Moore and Burge 1981:72; Santeford 1981:62-3).

Pressed Mold Glass. Pressed glass has a distinctly defined, impressed pattern on the exterior, with a smooth interior surface. The piece molds used leave typical, sharp ridges.

Plastic. Any of various complex organic compounds produced by polymerization. It can be molded, extruded, or cast into various shapes and films or drawn into filaments used as textile fibers. Plastic is a petroleum-based product.

Historic Artifact Descriptions

Ms-1044, Area A

2 Ceramics

1 Stoneware

1 basal sherd glazed light blue on both sides. The vessel was a possible short crock or bowl.

- 1 Yellow Ware
 - 1 very fragmented rim, red slip on both sides and salt glazed.

Ms-1229

- 6 Ceramics
 - 5 Earthenware
 - 1 rim with two red undercoated designs; one is a flower. The undercoat is covered by a transparent glaze. On the rim is a painted black line. All the designs are on the interior of the bowl.
 - 2 rim sherds of the same design; one is a plate and the other a saucer or bowl, ca. 1810-1870 (Orser 1981:30). The pattern is a wide band of hatched lines with what appears to be lettering in elaborate script. The design is blue.
 - 1 basal sherd with hobnail interior on the base; the design is in dark green and light green; it suggests a stem (a dark green line) and two light green leaves, but it is very fragmented.
 - 1 fragmented body sherd. One surface is missing; cobalt blue transfer pattern. The only identifiable part is the wing of a bird, possibly an eagle.

- 1 Redware
 - 1 brick fragment.

- 7 Glass
 - 3 glass marbles, two blue and white and the third green and white. The patterns are swirled and of types still being made.
 - 1 base of a bowl, pale blue milk glass similar to Fire King Ware of the 1930s (Dwyer et al. 1981:156).
 - 2 glass bottle fragments. One is a brown glass shoulder of a Budwiser beer bottle with the eagle wings and letter A. This is a recent bottle and still used today. The other is a fragment of a body sherd from a softdrink bottle with white lettering. It is made of clear glass.

FUL LWAYS
 ONTENTS 10 FL. OZS.
 DARE BEVERAGES
 d by
 OTTLING CO.
 Mo.

- 1 bottle with neck missing. The maker's mark on the base is a "J" in a keystone; "2" and "627" also are embossed. Three bands circle the base. The manufacturer is the Knox Glass Bottle Company of Jackson, Mississippi. This mark was used from 1932 to 1953 (Toulouse 1971:271).

All the bottle fragments and partial bottles described above are made by the automatic bottle making method.

- 3 Plastic
 - 1 black plastic tire or wheel from a toy, stamped "MADE IN U.S.A."
 - 1 piece of blue plastic, unidentifiable.
 - 1 imitation jewel stone, oval in shape.

Ms-1050. Area A

- 8 Ceramics
 - 2 Stoneware
 - 1 collar of a stoneware bowl or possibly a deep dish. It has a salt glaze exterior; the interior is glazed with brown Albany slip. Later part of the nineteenth century to early twentieth century (Ketchum 1983:224).
 - 1 body sherd of a crock, salt glazed exterior, brown Albany slip on the inside.
 - 1 Yellow Ware
 - 1 thin-walled shoulder of a gingerale or beer bottle. Red slip, salt glazed exterior, unglazed inside. Most likely nineteenth century.
 - 3 Whiteware
 - 2 "fluted" rims of a bowl and one fragment of a handle, all are glazed clear, known as unpainted molded.
 - 1 Porcelain
 - 1 basal sherd with a cobalt blue leaf on the inside, possibly handpainted.
 - 1 Redware
 - 1 rim with brown Albany slip on both sides. The rim is similar to rims on preserve jars made in the mid-nineteenth century, ca. 1840-1880 (Ketchum 1983:53-54).
- 6 Glass
 - 2 basal sherds, one of brown glass with a partial mark "Mc" or "M8" and "3", but it is too shattered to identify. The other is of aqua color and has no mark on it; the method of manufacture is unidentifiable on both.
 - 1 clear green body sherd.
 - 1 aqua shoulder sherd.
 - 2 neck and lip fragments; one neck with lip is an improved tool type cork closure, early 1870s to 1915. The other is a collar made between the 1820s and the early 1870s; it has an applied tool cork closure. Both fragments are aqua colored (Deiss 1981:52, 94).

Ms 1216

- 33 Ceramics
14 Stoneware
- 4 crock rims, all have salt glaze exteriors. Three of the rims have brown Albany glaze; one has a light brown glaze.
 - 2 collars of bowls; one has a salt glaze collar and brown slip body with brown slip interior. The other collar is glazed with white alkaline glaze on both sides; the exterior also is cobalt blue glazed in spongeware pattern (Ketchum 1983:214, 221, 222).
 - 5 body sherds with salt glazed exteriors and brown slip interiors.
 - 2 body sherds with unglazed interiors; one is salt glazed exterior, the other is brown glazed.
 - 1 basal sherd brown glazed on one side, unglazed on the other.
- 3 Yellow Ware
- 1 fragment of a lid with a clear alkaline glaze on both sides (Ketchum 1983:54).
 - 1 rim of a bowl with a raised bead pattern on the inside edge; the glaze is called Rockingham, which is two shades of brown (Ketchum 1983:117).
 - 1 body sherd with Rockingham glaze on one surface and dark brown Albany glaze on the other.
- 11 Whiteware
- 6 rim sherds; two are from plates that could be dated to the middle of the last century (Orser 1981:29, 30).
 - 2 rims of cups; one has a cobalt blue line that runs on the interior of the lip and has a cobalt blue mark on the exterior, but it is too fragmented to identify. The sherd also shows that the outside of the cup was fluted. The other rim also is a cup. It has fluted marks embossed on it. It also has three embossed bands at the lip on the exterior. This is the type called unpainted molded.
 - 2 rims of possible bowls were found; one has a transfer pattern on both sides. The interior has oak leaves on a fine line background. On the exterior surface there appears part of a roof top and a tree. Both sides are glazed purple. The rim of this possible bowl is scalloped and painted with a gold flower-like design on the interior.
 - 2 body sherds; one has signs of cobalt blue on one surface, the other side is missing. The other sherd has a brown transfer pattern on one surface. The piece is too fragmented to identify the pattern. The other side is plain.
 - 1 fragment of a handle.

- 2 basal sherds; both had makers' marks. One is in cobalt blue and is very fragmented. The mark is similar to a mark used by E. F. Bodley and Co. of Burslem, Great Britain, after 1860 (Kovel 1953:169).
- 3 Porcelain
 - 2 wheels or casters; one is unglazed and very fragmented. The other is a complete wheel glazed on both sides but unglazed on the tread area.
 - 1 "China Marble," as they are called, but are actually made of porcelain (Baumann 1970:32-34). It is one of the more common designs. It has three green bands that run about the middle and a spray of five leaves in red on either side. Several of the leaves show a black outline. This type of marble was very common in the nineteenth century. The manufacturing process for this type started in Germany in 1800 (Baumann 1970:32).
- 1 Earthenware
 - 1 Half of a clay marble with no glaze or design. These also are called "Crockery Marbles" (Baumann 1970:30-32).
- 1 Redware
 - 1 brick fragment with a blackish brown glaze.
- 3 Shell
 - 3 shell buttons. One has two holes; the remainder have four holes.
- 17 Glass
 - 3 white milk glass pieces; two are the liners inside zinc lids for canning jars (Moore and Burge 1981:272). The remaining piece is a footed decorative bowl or vase; it is a pressed glass piece with flowers and scroll work with a band of round beads at the base of the vessel.
 - 2 very fragmented glass tubes, possibly insulators. One is dark brown glass; the other is blue glass.
 - 1 brown glass body sherd.
 - 1 clear glass molten blob.
 - 2 basal fragments. One is a clear glass round bottle and has makers' marks. Part of it is missing and made identification unattainable:

"D B. H. & CO."
 REGISTERED
 73
 PR.

The other base is aqua in color and was made by the three-piece mold method first introduced in 1858 (Deiss 1981:56, 58). It also is from a round bottle.

- 2 body/shoulder parts. One is from a square or rectangular vessel and has a fragment of a leaf in an oval border. This vessel fragment could not be identified as to how it was made.
- 3 rims or orifices. One is a grooved ring aqua in color. The grooved ring is mostly used in fruit jars for canning and appear in the mid-1800s (Toulouse 1977:113).
- 1 neck and collar fragment from bottles made between the 1870s and 1915 by the Improved tool; it is the cork style and similar to the one found at Ms-1050.
- 1 fragment of a shoulder seal canning jar with neck lugs, postdating 1903, made by the automatic bottle method.
- 1 clear glass stopper with triangle pattern on it.
- 1 pink glass decorative item fragment made in a three-piece mold.
- 1 glass lid for a canning jar, embossed "PATENT APPLIED FOR" made of clear glass, pressed mold, an "over-the-top" wire ball seal (Toulouse 1977:28).

Ms-1236

- 2 Ceramics
 - 1 Yellow Ware
 - 1 collar, one rim and shoulder sherd of a bowl. Light blue glaze on either side. There is an embossed pattern on the exterior in a "pointed staff." This pattern runs continuous around the collar of the bowl.
 - 1 Porcelain
 - 1 basal sherd of a plate. The interior has a handpainted flower in polychrome; also painted near the stem is the word "Pierre" in a script. On the other side is a maker's mark, "Bavaria" Hand Painted"; above the words is a closed crown with "P. S. A. G." inside it. The manufacturer was not identifiable.
- 1 Glass
 - 1 glass marble with a yellow, white, and orange swirl pattern. This type of marble is still being made.
- 1 Stone
 - 1 fragment of a "whetting stone," gray in color.